

CHAPTER 4

POINT AND NONPOINT SOURCE CHARACTERIZATION OF THE RED RIVER WATERSHED

4.1 Background.

4.2. Characterization of HUC-10 Subwatersheds

4.2.A. 0513020601 (Red River)

4.2.B. 0513020602 (South Fork Red River)

4.2.C. 0513020604 (Red River)

4.2.D. 0513020605 (Sulphur Fork Red River)

4.2.E. 0513020606 (West Fork Red River)

4.2.F. 0513020607 (Little West Fork Red River)

4.1. BACKGROUND. This chapter is organized by HUC-12 subwatershed, and the description of each subwatershed is divided into four parts:

- i. General description of the subwatershed
- ii. Description of point source contributions
 - ii.a. Description of facilities discharging to water bodies listed on the 2004 303(d) list
- iii. Description of nonpoint source contributions

The Tennessee portion of the Red River Watershed (HUC 05130206) has been delineated into six HUC 10 (10-digit) subwatersheds, each of which is composed of one or more HUC-12 subwatersheds.

Information for this chapter was obtained from databases maintained by the Division of Water Pollution Control or provided in the WCS (Watershed Characterization System) data set. The WCS used was version 2.0 (developed by Tetra Tech, Inc for EPA Region 4) released in 2003.

WCS integrates with ArcView® v3.x and Spatial Analyst® v1.1 to analyze user-delineated (sub)watersheds based on hydrologically connected water bodies. Reports are generated by integrating WCS with Microsoft® Word. Land Use/Land Cover information from 1992 MRLC (Multi-Resolution Land Cover) data are calculated based on the proportion of county-based land use/land cover in user-delineated (sub)watersheds. Nonpoint source data in WCS are based on agricultural census data collected 1992–1998; nonpoint source data were reviewed by Tennessee NRCS staff.

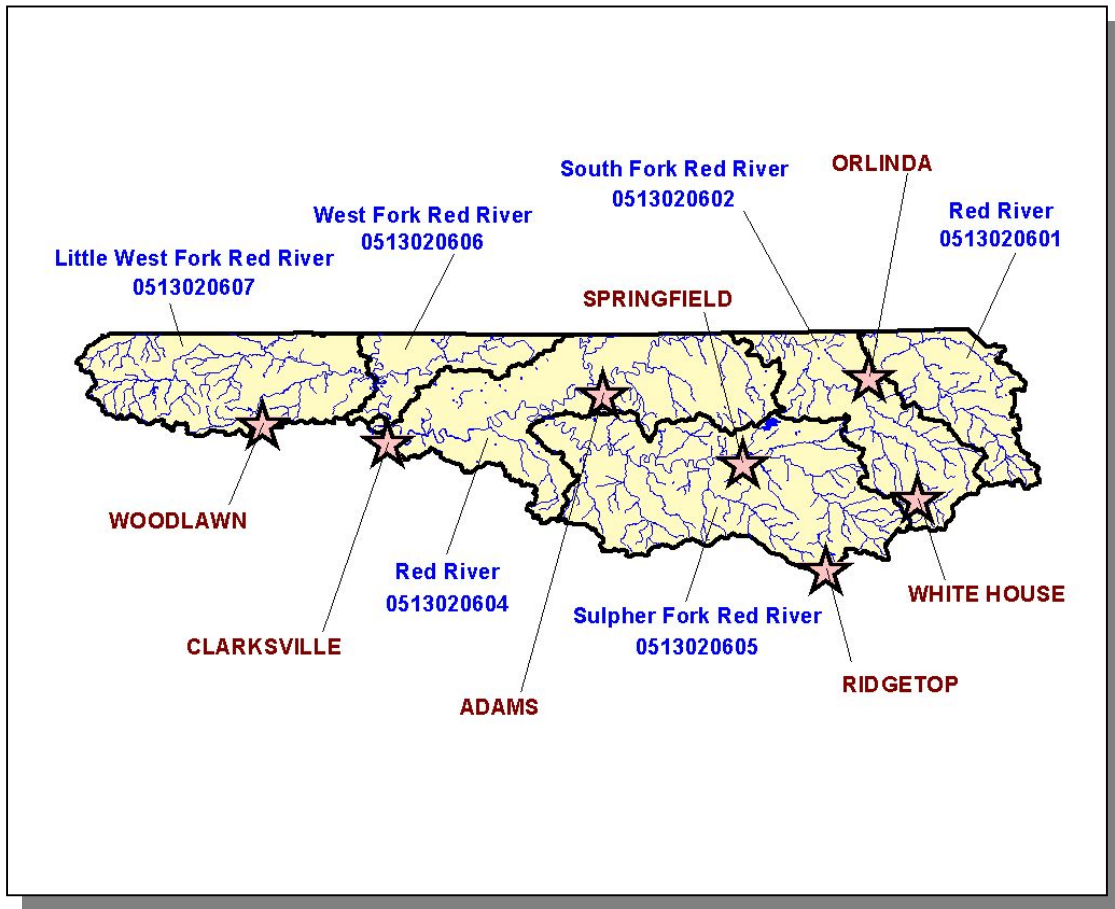


Figure 4-1. The Tennessee Portion of the Red River Watershed is Composed of Six USGS-Delineated Subwatersheds (10-Digit Subwatersheds). Locations of Adams, Clarksville, Orlinda, Ridgetop, Springfield, White House, and Woodlawn are shown for reference.

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4.2. CHARACTERIZATION OF HUC-10 SUBWATERSHEDS. The Watershed Characterization System (WCS) software and data sets provided by EPA Region IV were used to characterize each subwatershed in the Tennessee portion of the Red River Watershed.

HUC-10	HUC-12
0513020601	051302060101 (Red River)
	051302060102 (Red River)
0513020602	051302060201 (South Fork Red River)
	051302060202 (South Fork Red River)
0513020604	051302060401 (Red River)
	051302060402 (Spring Creek)
	051302060403 (Red River)
	051302060404 (Elk Fork Creek)
	051302060405 (Red River)
	051302060406 (Passenger Creek)
	051302060407 (Red River)
0513020605	051302060501 (Sulphur Fork Creek)
	051302060502 (Sulphur Fork Creek)
	051302060503 (Carr Creek)
	051302060504 (Sulphur Fork Creek)
	051302060505 (Millers Creek)
	051302060506 (Sulphur Fork Creek)
0513020606	051302060603 (West Fork Red River)
	051302060604 (Spring Creek)
	051302060605 (West Fork Red River)
0513020607	051302060701 (Noahs Springs Branch)
	051302060702 (Piney Fork Creek)
	051302060703 (Little West Fork Red River)
	051302060704 (Fletchers Fork)
	051302060705 (Little West Fork Red River)

Table 4-1. HUC-12 Drainage Areas are Nested Within HUC-10 Drainages. NRCS worked with USGS to delineate the HUC-10 and HUC-12 drainage boundaries.

4.2.A. 0513020601.

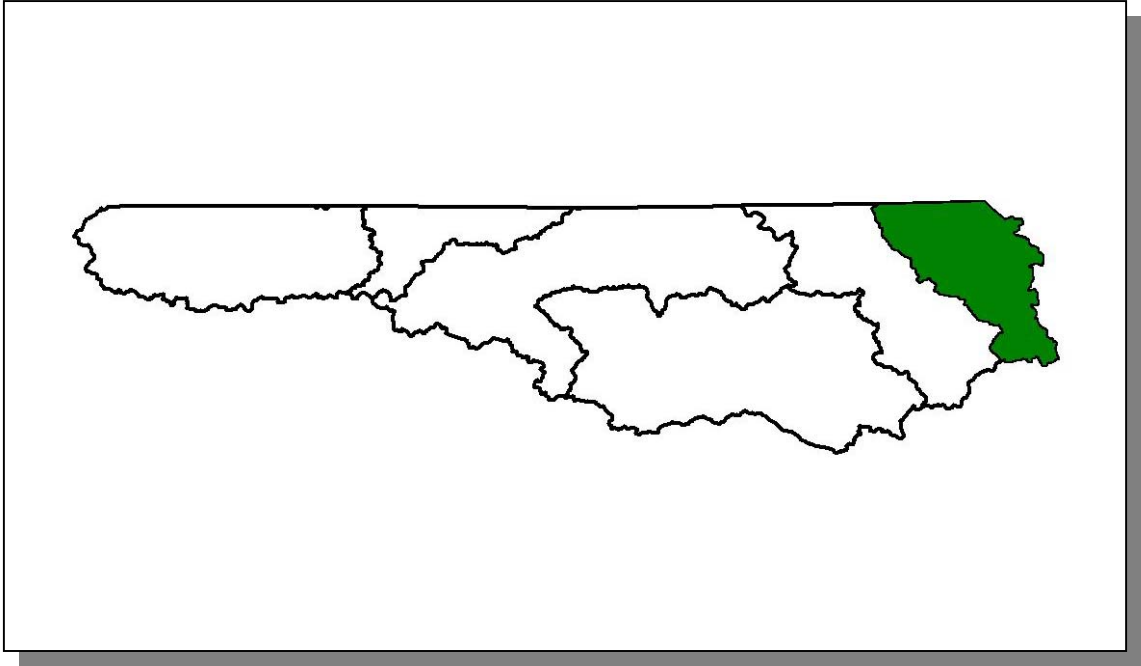


Figure 4-2. Location of Subwatershed 0513020601. All Red River HUC-10 subwatershed boundaries in Tennessee are shown for reference.

4.2.A.i. 051302060101 (Red River).

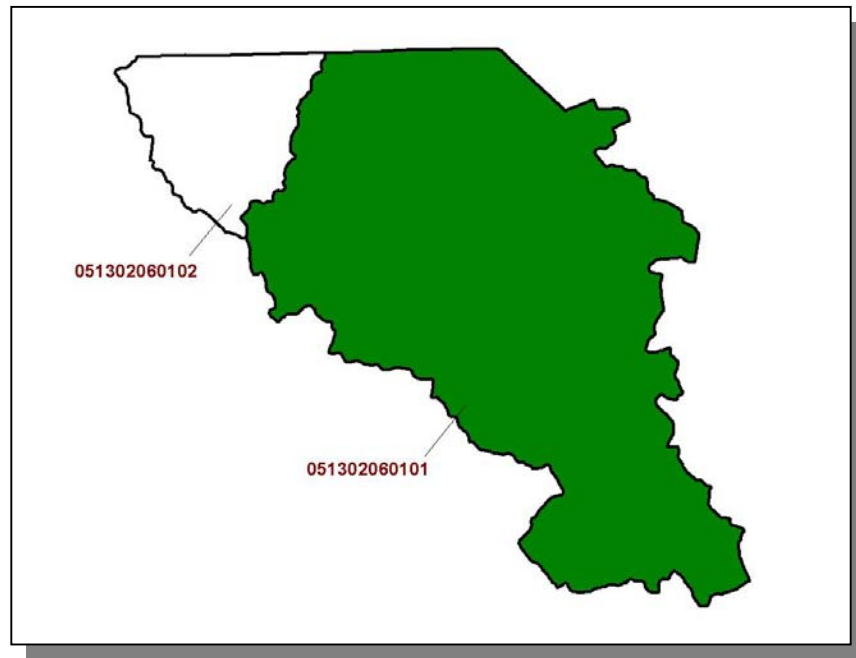


Figure 4-3. Location of Subwatershed 051302060101. All Red River HUC-12 subwatershed boundaries in Tennessee are shown for reference.

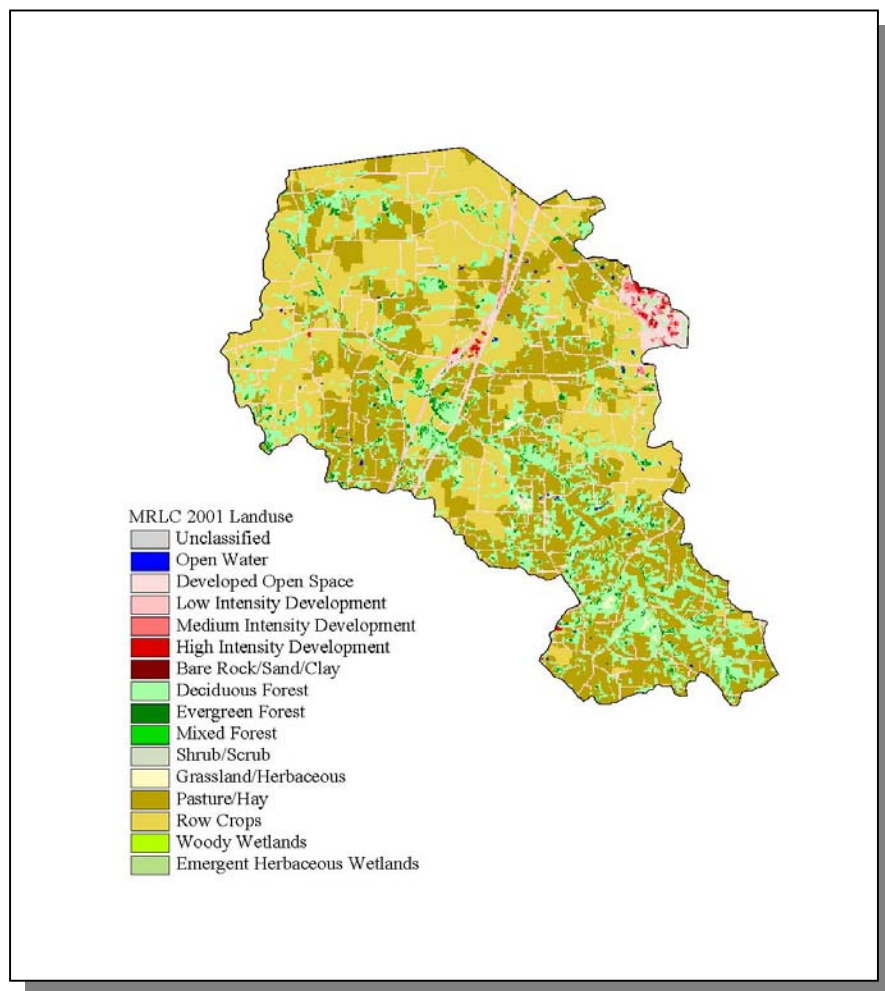


Figure 4-4. Illustration of Land Use Distribution in Subwatershed 051302060101.

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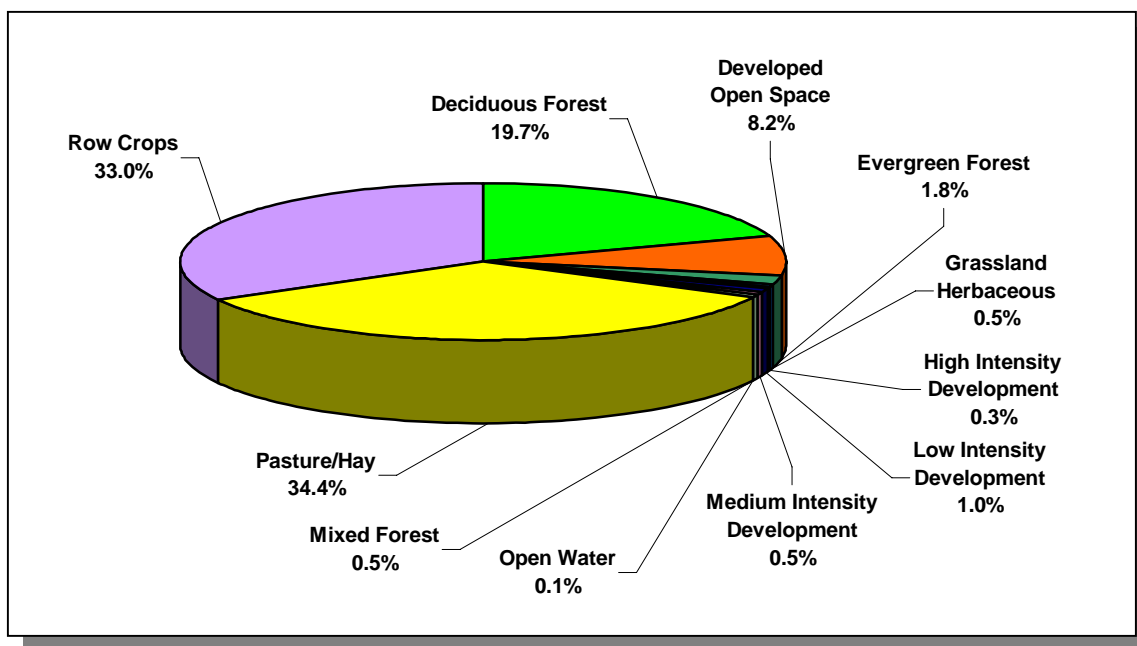


Figure 4-5. Land Use Distribution in Subwatershed 051302060101. More information is provided in Appendix IV.

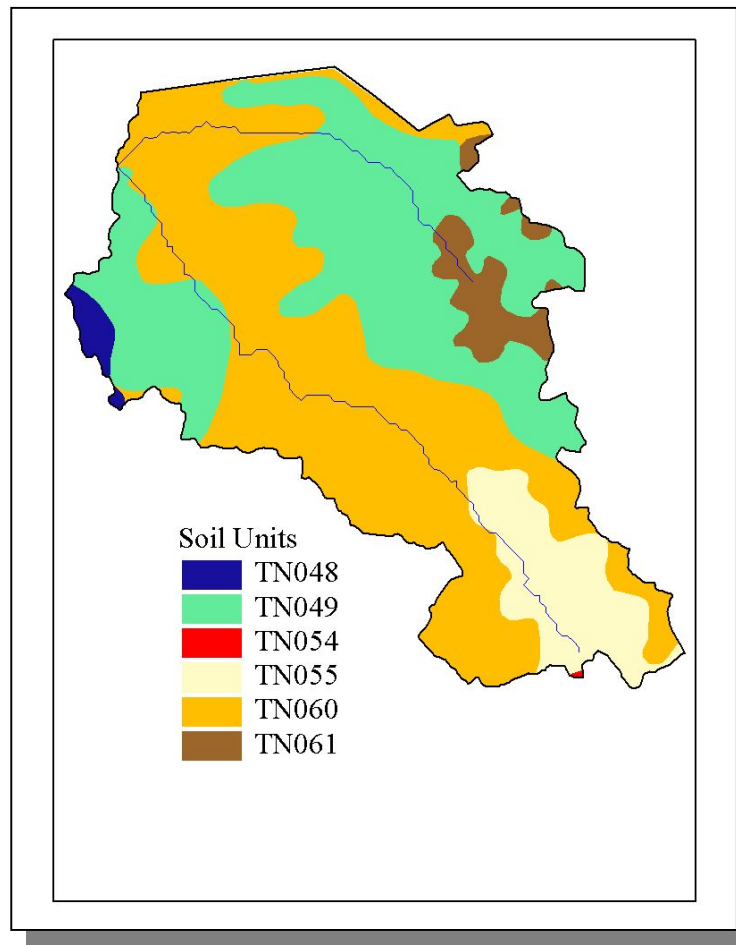


Figure 4-6. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060101.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN049	0.00	C	1.30	5.94	Silty Loam	0.34
TN054	0.00	B	3.04	4.84	Loam	0.32
TN055	3.00	C	2.45	5.24	Loam	0.34
TN060	5.00	C	1.30	5.32	Silty Loam	0.39
TN061	50.00	B	1.30	5.09	Silty Loam	0.42

Table 4-2. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060101. The definition of "Hydrologic Group" is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Robertson	41,494	51,533	54,433	6.25	2,592	3,219	3,400	31.2
Sumner	103,281	121,936	130,449	6.39	6,599	7,791	8,334	26.3
Total	144,775	173,469	184,882		9,191	11,010	11,734	27.7

Table 4-3. Population Estimates in Subwatershed 051302060101.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Mitchellville	Sumner	198	96	2	94	0
Orlinda	Robertson	476	199	2	194	3
Portland	Sumner	5,165	2,101	1,382	705	14
Total		5,839	2,396	1,386	993	17

Table 4-4. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060101.

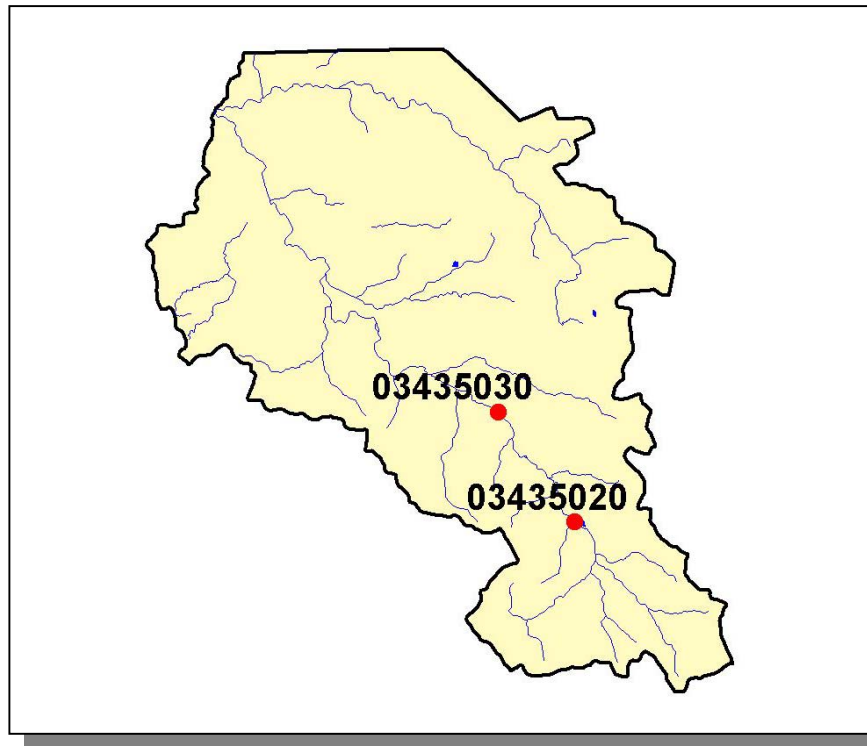


Figure 4-7. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060101. More information is provided in Appendix IV.

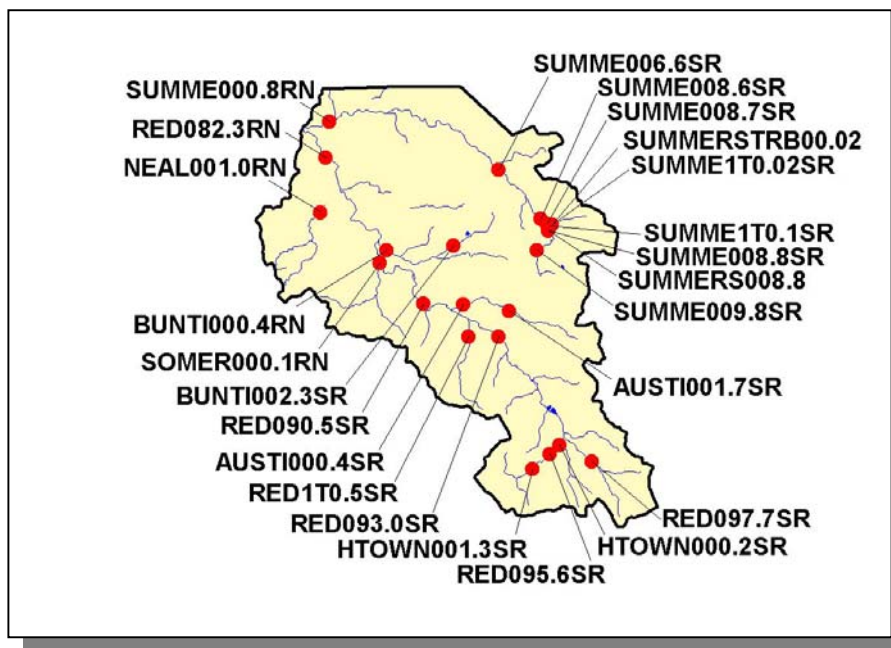


Figure 4-8. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060101. More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.A.i.a. Point Source Contributions.

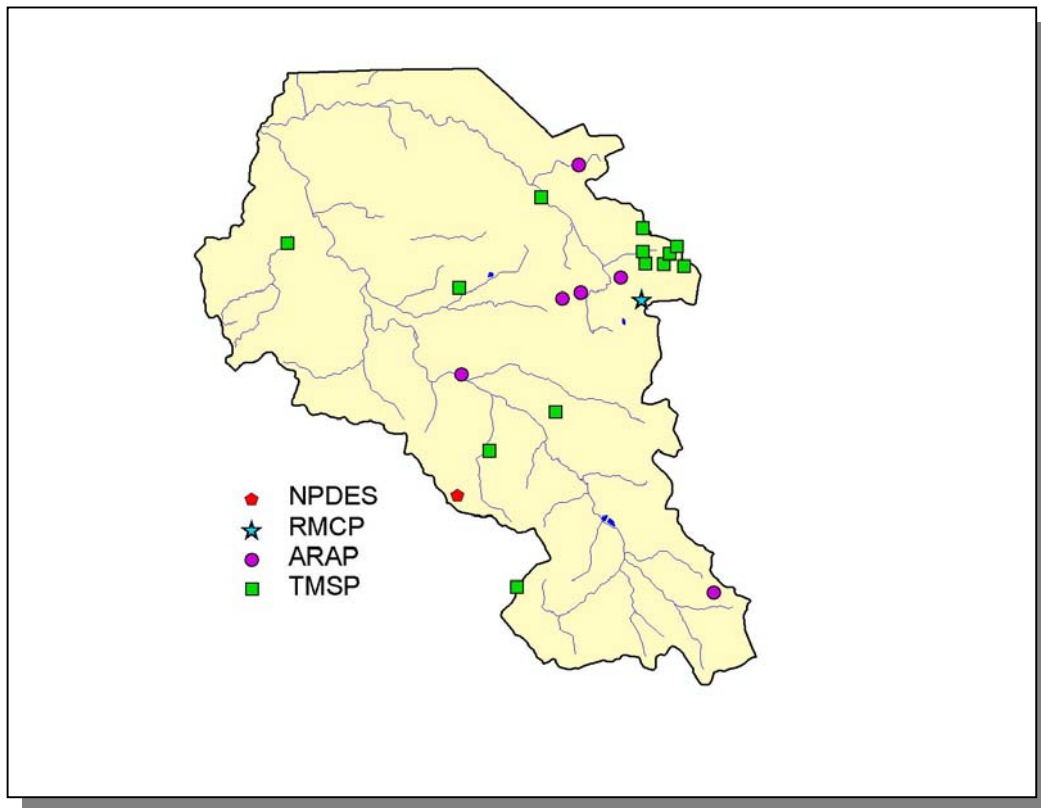


Figure 4-9. Location of Permits Issued in Subwatershed 051302060101. More information, including the names of facilities, is provided in Appendix IV.



Figure 4-10. Location of Active NPDES Sites in Subwatershed 051302060101. More information, including the names of facilities, is provided in Appendix IV.



Figure 4-11. Location of Ready Mix Concrete Plants (RMCP) in Subwatershed 051302060101. More information is provided in Appendix IV.

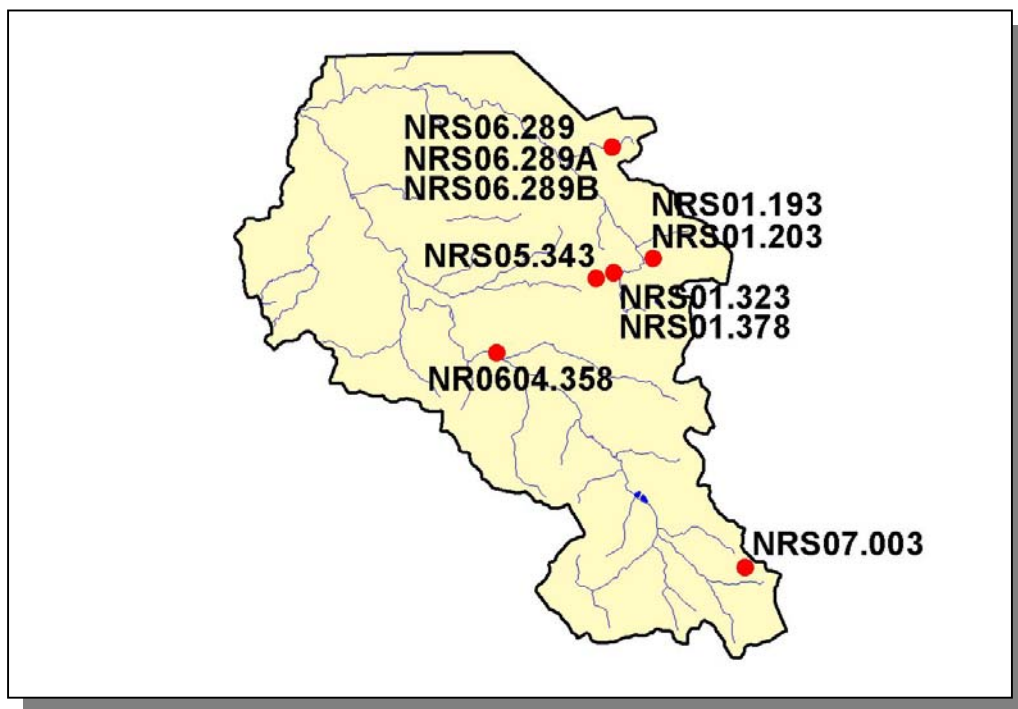


Figure 4-12. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060101. More information is provided in Appendix IV.

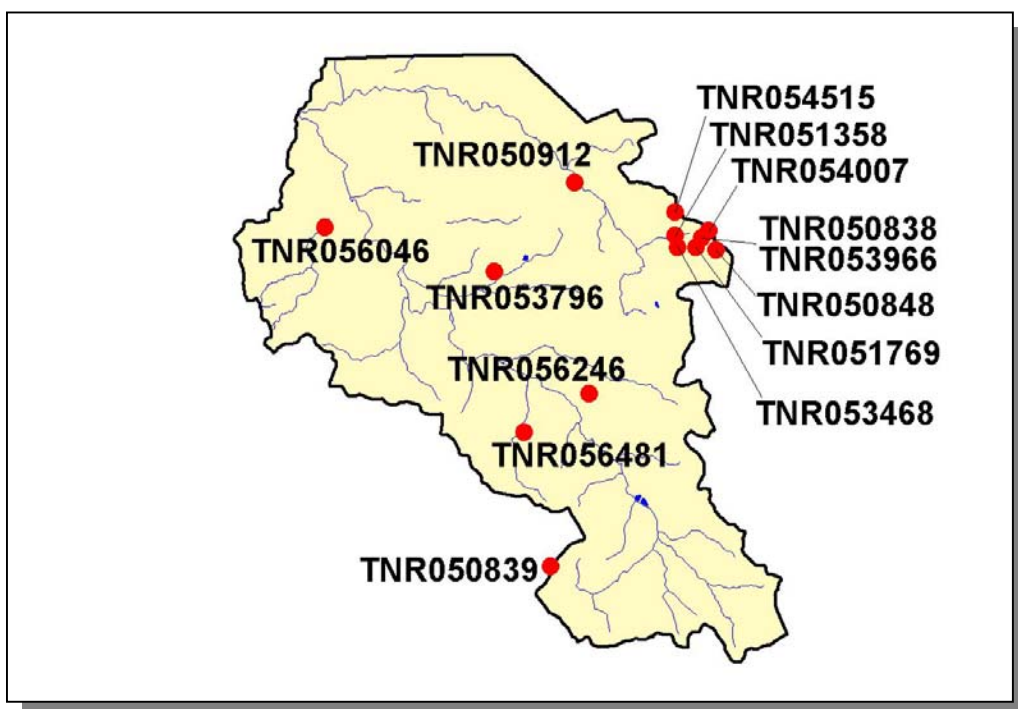


Figure 4-13. Location of TMSP Sites in Subwatershed 051302060101. More information, including the names of facilities, is provided in Appendix IV.

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4.2.A.i.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
4,880	10,030	459	10	839	47

Table 4-5. Summary of Livestock Count Estimates in Subwatershed 051302060101.
According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Robertson	22,502	47,887	3,478	31	6,982	279
Sumner	22,296	45,116	1,515	50	2,500	189

Table 4-6. Summary of Livestock Count Estimates in Robertson and Sumner Counties.
According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Robertson	53.0	53.0	2.2	9.7
Sumner	88.2	88.2	2.0	6.3

Table 4-7. Forest Acreage and Annual Removal Rates (1987-1994) in Robertson and Sumner Counties.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.56
Grass (Hayland)	0.34
Legumes, Grass (Hayland)	0.37
Legumes (Hayland)	0.40
Grass, Forbs, Legumes (Mixed Pasture)	0.48
Corn (Row Crops)	8.99
Soybeans (Row Crops)	10.69
Tobacco (Row Crops)	11.87
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	14.75
Conservation Reserve Program Lands	0.31
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.62

Table 4-8. Annual Estimated Total Soil Loss in Subwatershed 051302060101.

4.2.A.ii. 051302060102 (Red River).

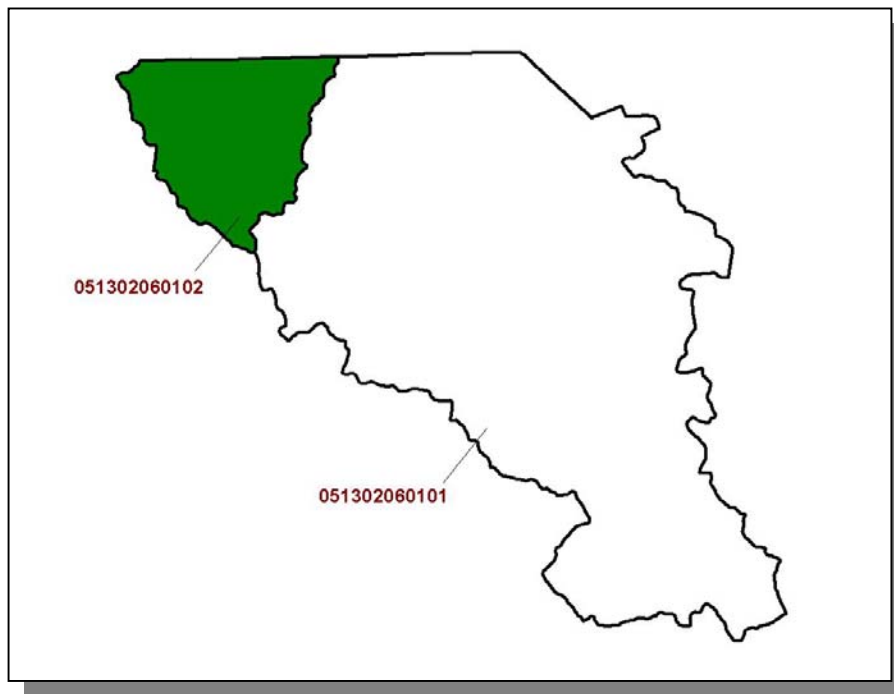


Figure 4-14. Location of Subwatershed 051302060102. All Red River HUC-12 subwatershed boundaries in Tennessee are shown for reference.

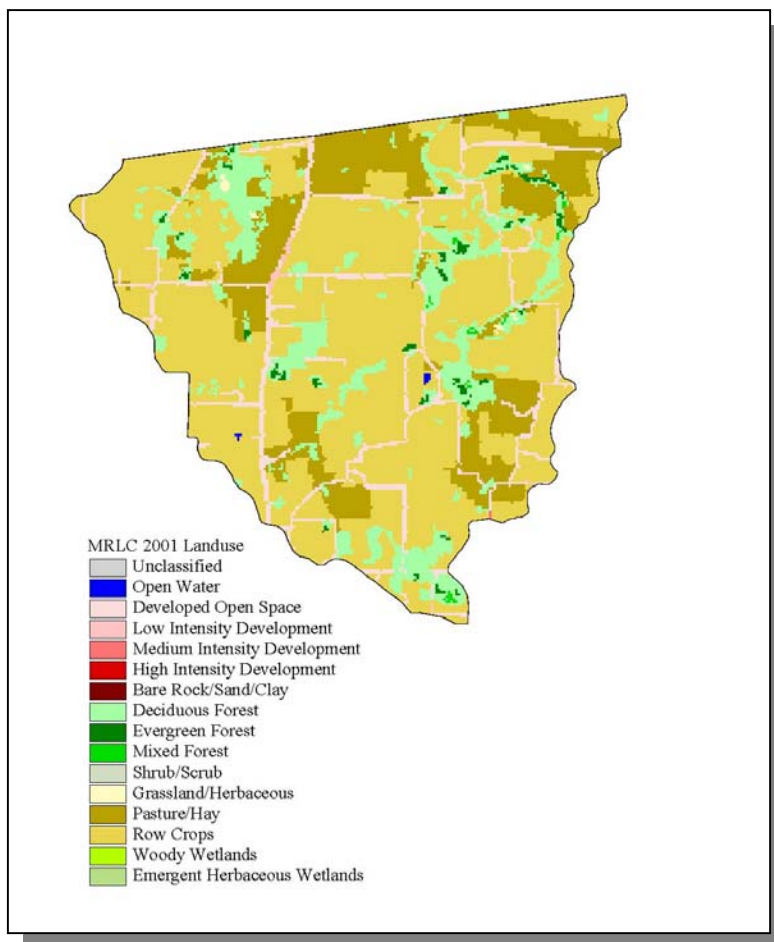


Figure 4-15. Illustration of Land Use Distribution in Subwatershed 051302060102.

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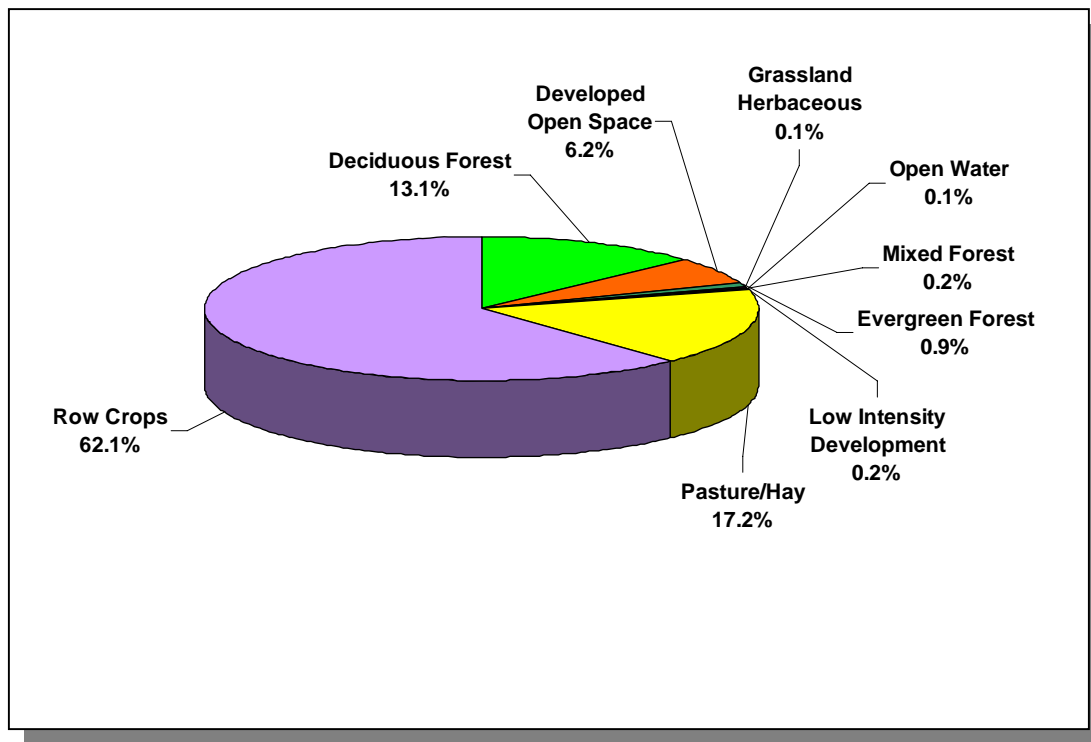


Figure 4-16. Land Use Distribution in Subwatershed 051302060102. More information is provided in Appendix IV.

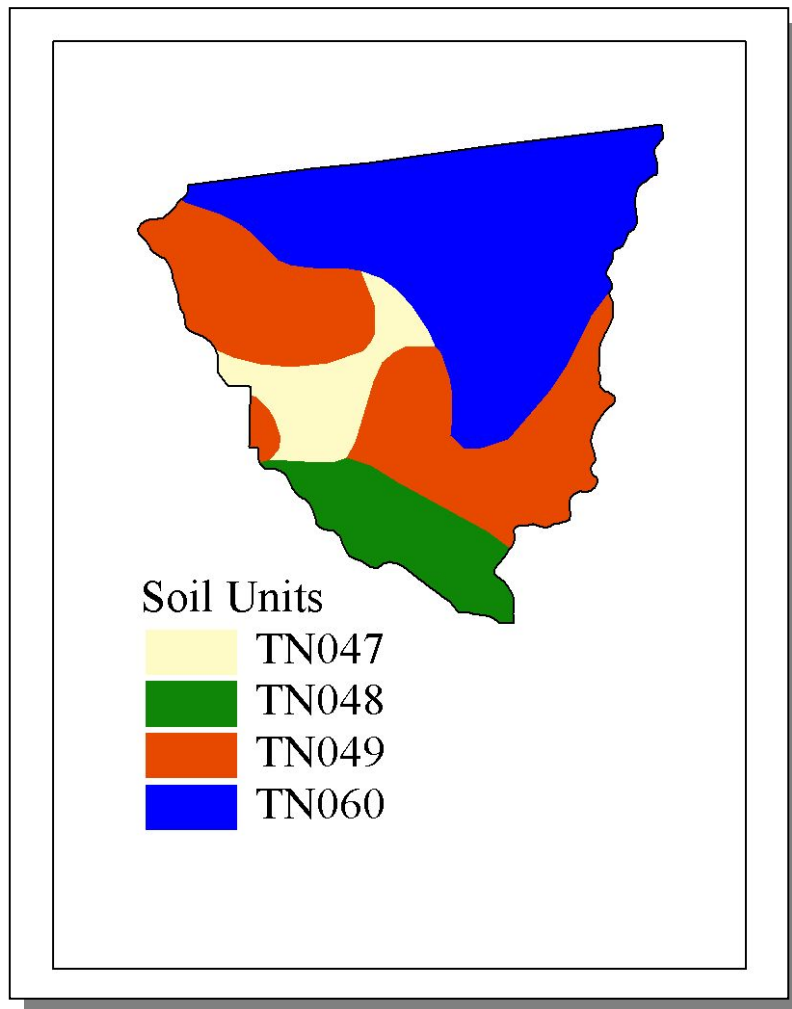


Figure 4-17. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060102.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN047	21.00	C	1.62	5.73	Silty Loam	0.37
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN049	0.00	C	1.30	5.94	Silty Loam	0.34
TN060	5.00	C	1.30	5.32	Silty Loam	0.39

Table 4-9. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060102. The definition of "Hydrologic Group" is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Robertson	41,494	51,533	54,433	2.11	875	1,087	1,148	31.2

Table 4-10. Population Estimates in Subwatershed 051302060102.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Orlinda	Robertson	476	199	2	194	3

Table 4-11. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060102.

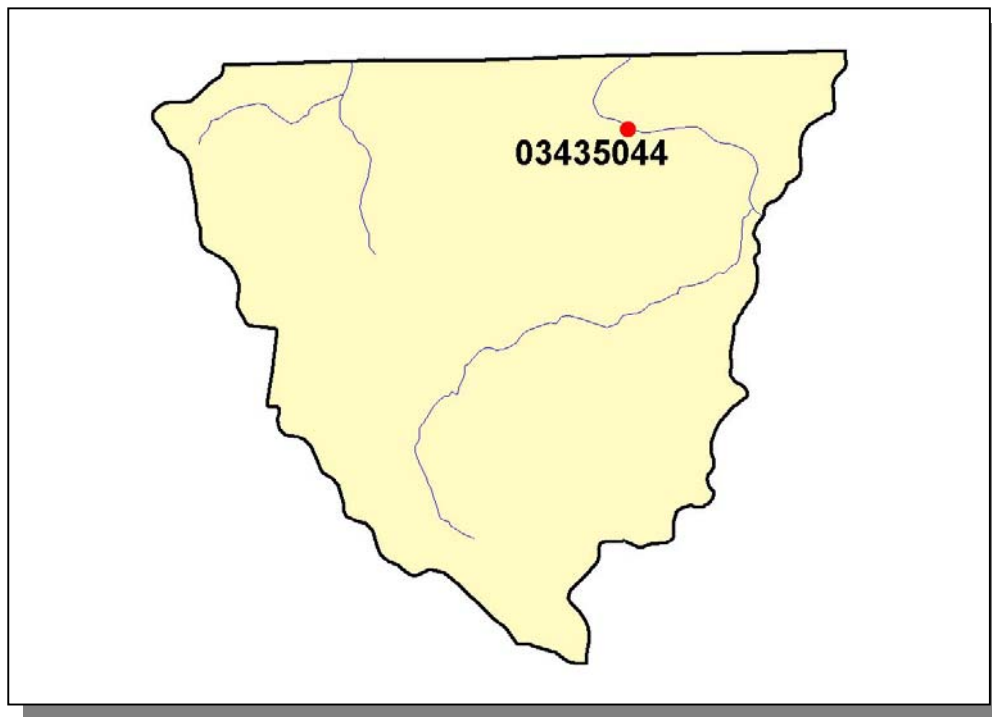


Figure 4-18. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060102. More information is provided in Appendix IV.

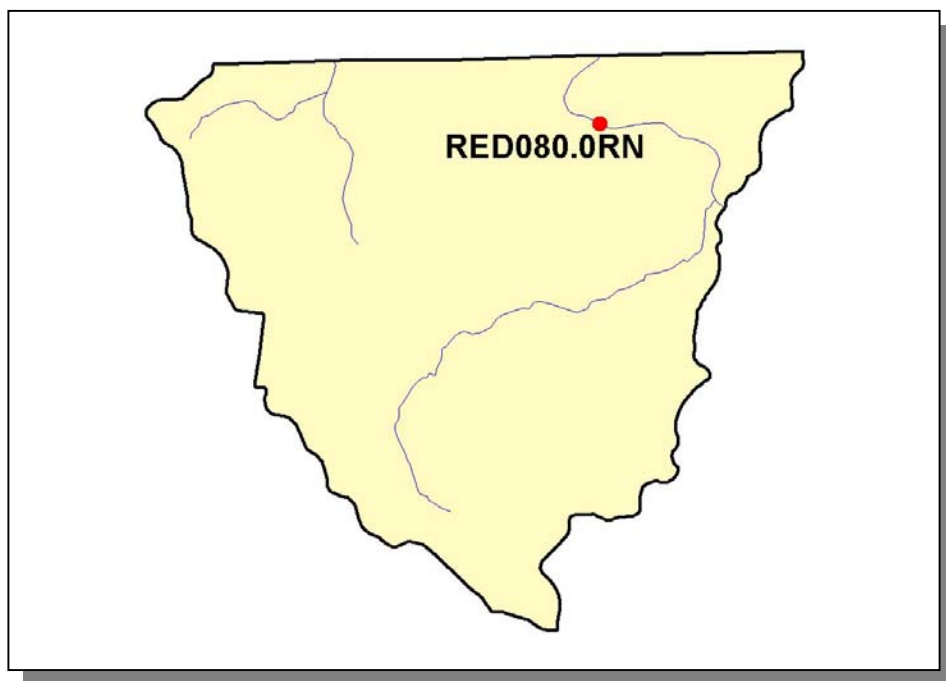


Figure 4-19. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060102. More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.

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4.2.A.ii.a. Point Source Contributions.

There are no point sources in this subwatershed.

4.2.A.ii.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
609	1,297	94	<5	189	8

Table 4-12. Summary of Livestock Count Estimates in Subwatershed 051302060102. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Robertson	22,502	47,887	3,478	31	6,982	279

Table 4-13. Summary of Livestock Count Estimates in Robertson County. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Robertson	53.0	53.0	2.2	9.7

Table 4-14. Forest Acreage and Annual Removal Rates (1987-1994) in Robertson County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.67
Grass (Hayland)	0.37
Legumes, Grass (Hayland)	0.53
Legumes (Hayland)	0.73
Grass, Forbs, Legumes (Mixed Pasture)	0.42
Corn (Row Crops)	5.15
Soybeans (Row Crops)	10.03
Wheat (Close-Grown Cropland)	1.68
Tobacco (Row Crops)	11.87
Other Cropland not Planted	9.59
Conservation Reserve Program Lands	0.36
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.95

Table 4-15. Annual Estimated Total Soil Loss in Subwatershed 051302060102.

4.2.B. 0513020602.

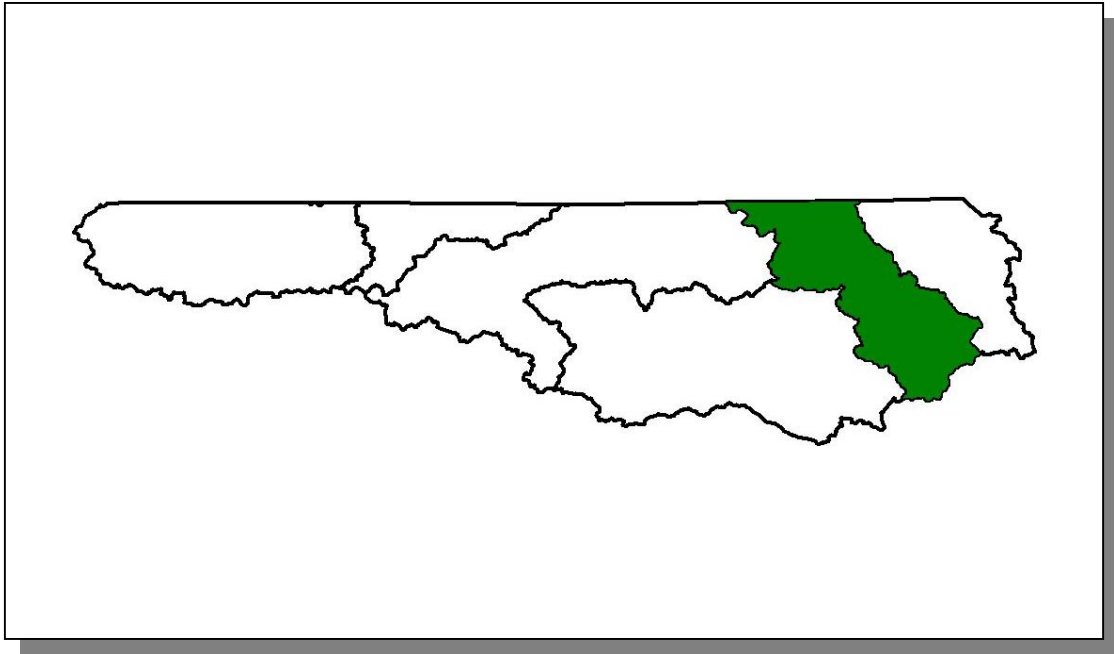


Figure 4-20. Location of Subwatershed 0513020602. All Red River HUC-10 subwatershed boundaries in Tennessee are shown for reference.

4.2.B.i. 051302060201 (South Fork Red River).

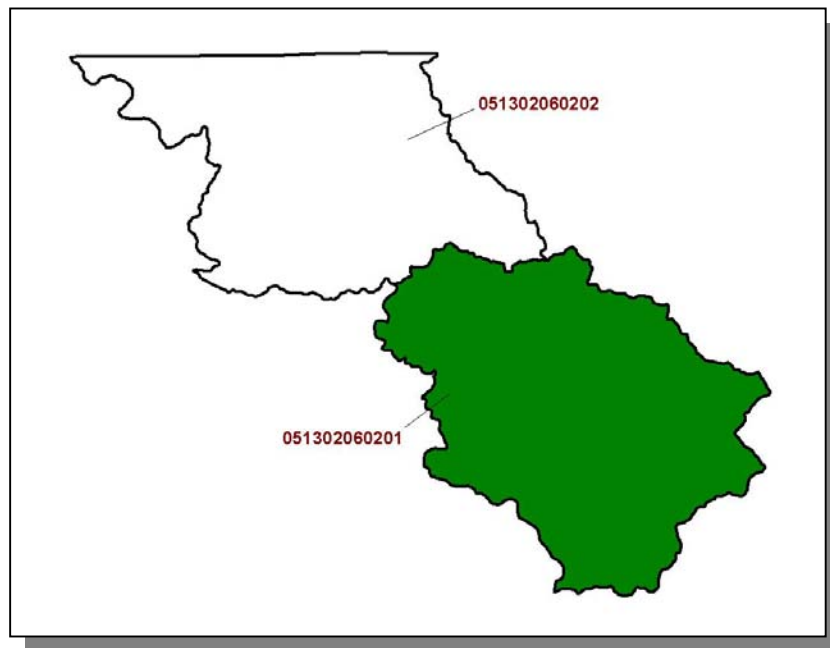


Figure 4-21. Location of Subwatershed 051302060201. All Red River HUC-12 subwatershed boundaries in Tennessee are shown for reference.

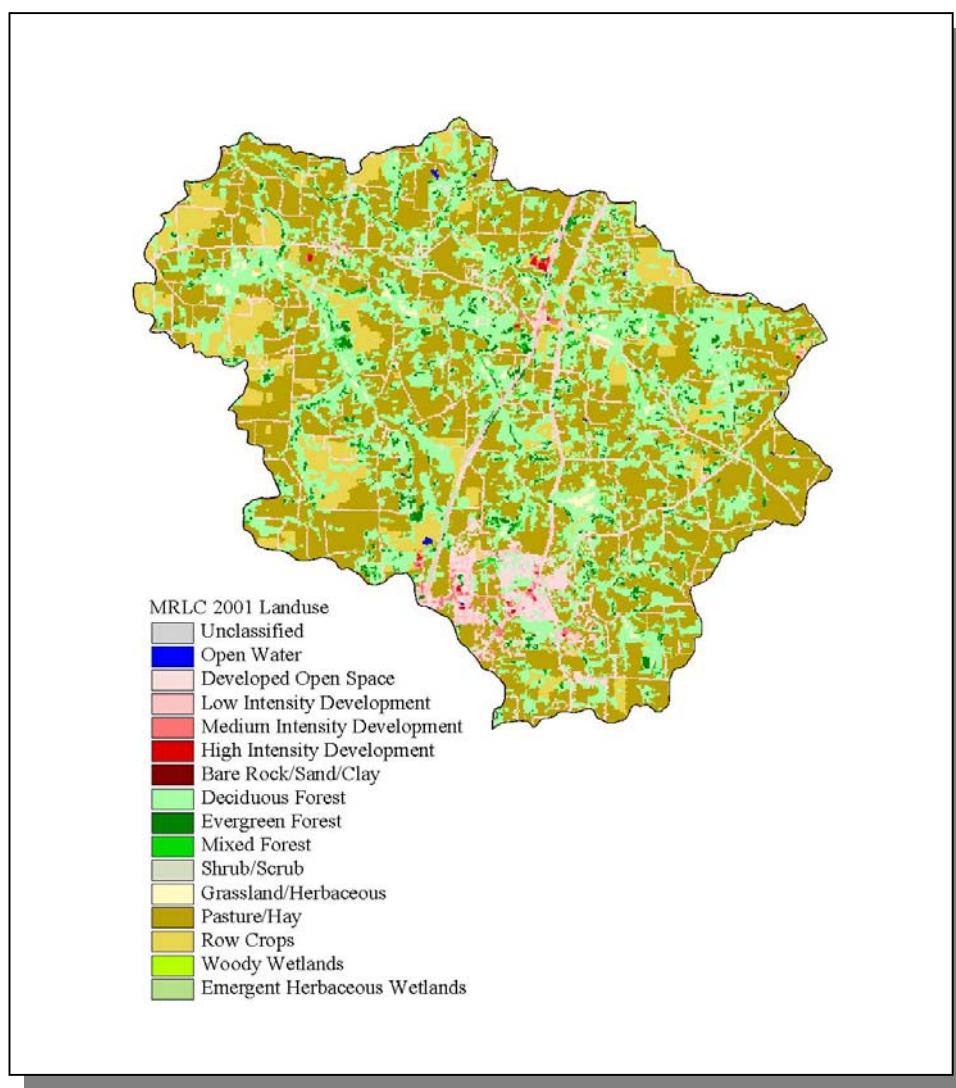


Figure 4-22. Illustration of Land Use Distribution in Subwatershed 051302060201.

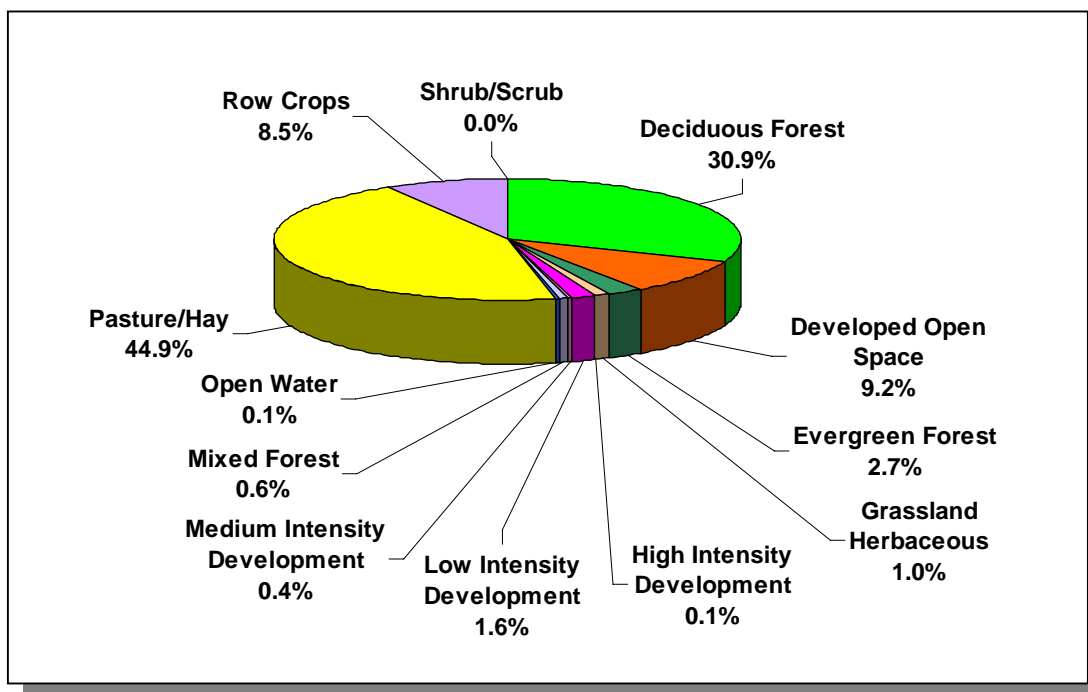


Figure 4-23. Land Use Distribution in Subwatershed 051302060201. More information is provided in Appendix IV.

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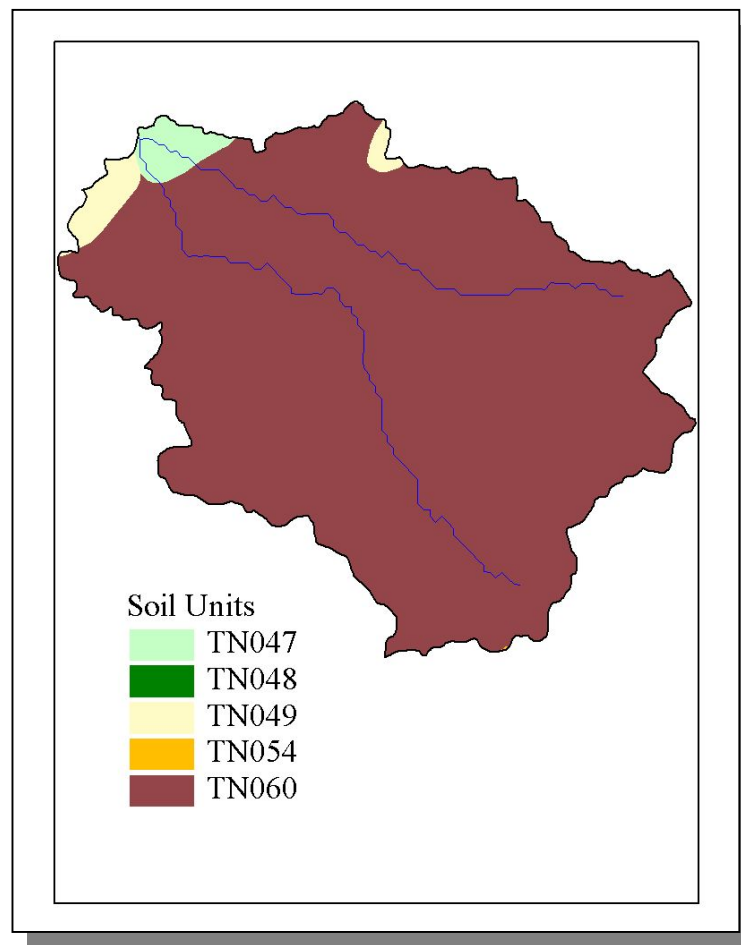


Figure 4-24. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060201.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN047	21.00	C	1.62	5.73	Silty Loam	0.37
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN049	0.00	C	1.30	5.94	Silty Loam	0.34
TN054	0.00	B	3.04	4.84	Loam	0.32
TN060	5.00	C	1.30	5.32	Silty Loam	0.39

Table 4-16. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102060201. The definition of "Hydrologic Group" is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Robertson	41,494	51,533	54,433	7.33	3,041	3,777	3,989	31.2
Sumner	103,281	121,936	130,449	4.08	4,212	4,972	5,319	26.3
Total	144,775	173,469	184,882		7,253	8,749	9,308	28.3

Table 4-17. Population Estimates in Subwatershed 051302060201.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
White House	Sumner	3,024	1,130	991	136	3
Cross Plains	Robertson	1,005	389	15	369	5
Total		4,029	1,519	1,006	505	8

Table 4-18. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060201.

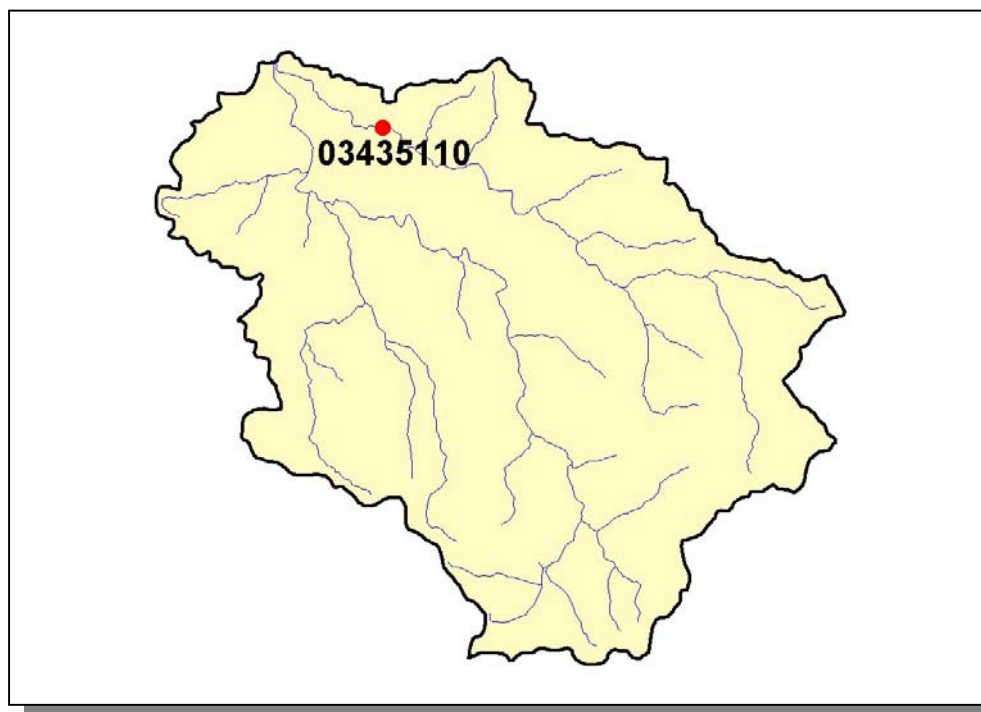


Figure 4-25. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060201. More information is provided in Appendix IV.

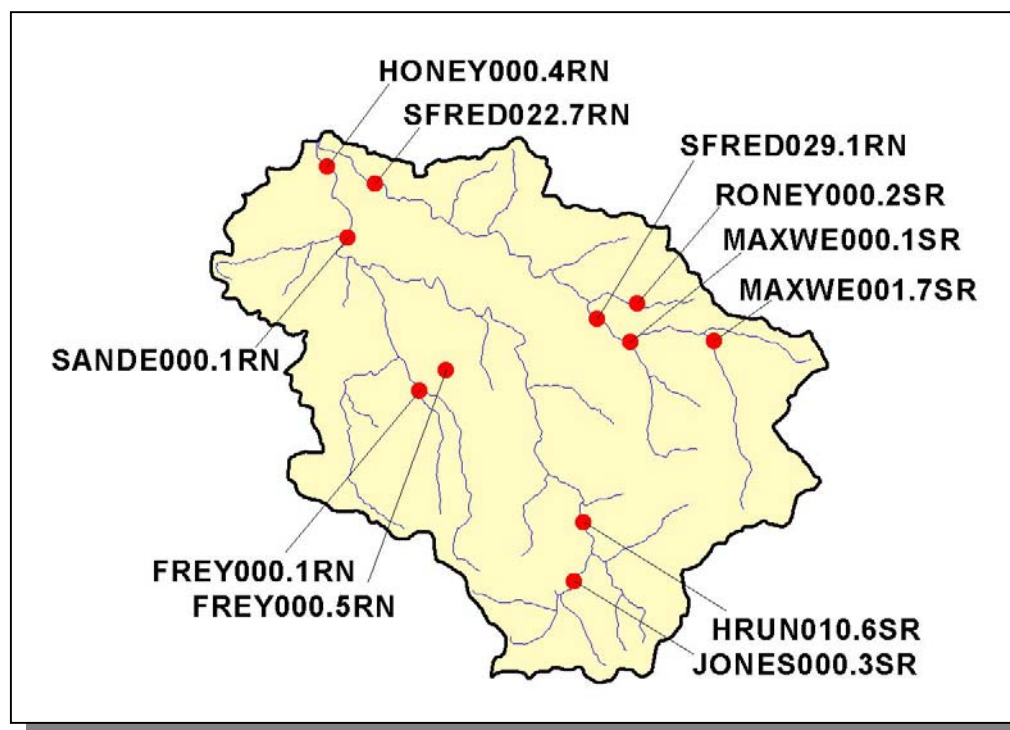


Figure 4-26. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060201. More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.B.i.a. Point Source Contributions.

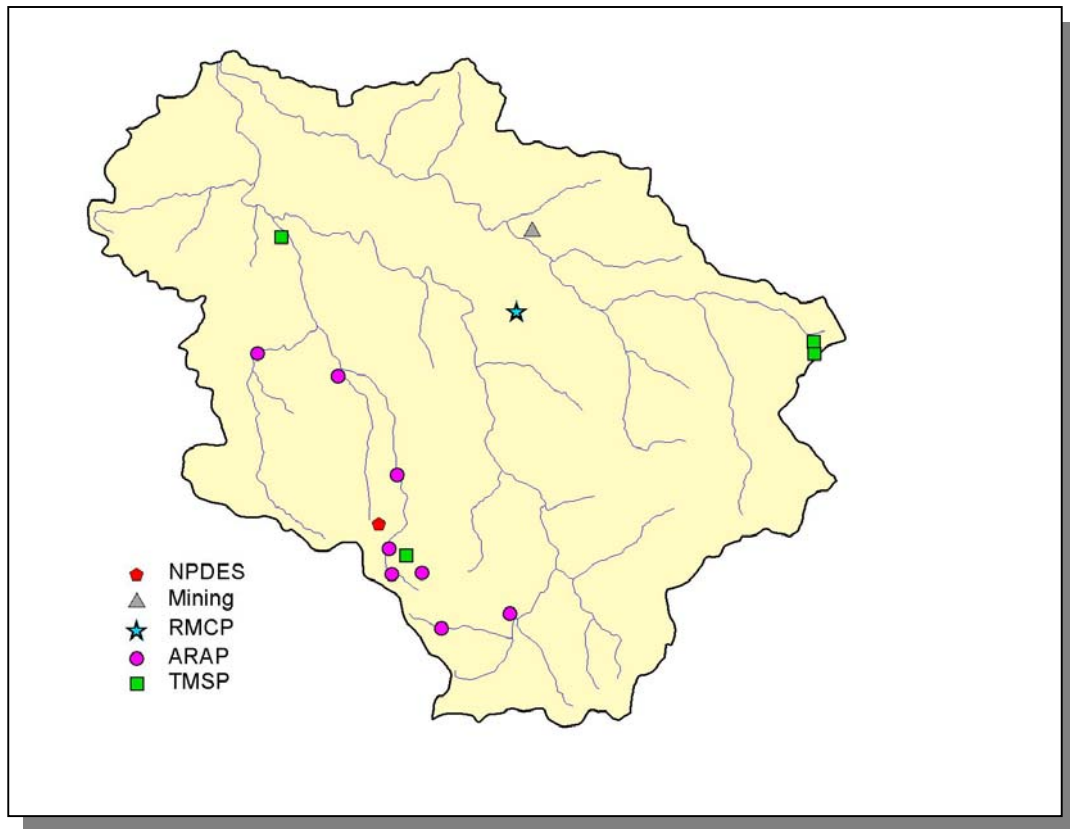


Figure 4-27. Location of Permits Issued in Subwatershed 051302060201. More information, including the names of facilities, is provided in Appendix IV.



Figure 4-28. Location of Active NPDES Sites in Subwatershed 051302060201. More information, including the names of facilities, is provided in Appendix IV.



Figure 4-29. Location of Active Mining Sites in Subwatershed 051302060201. More information, including the names of mining operations, is provided in Appendix IV.



Figure 4-30. Location of Ready Mix Concrete Plants (RMCP) in Subwatershed 051302060201. More information is provided in Appendix IV.

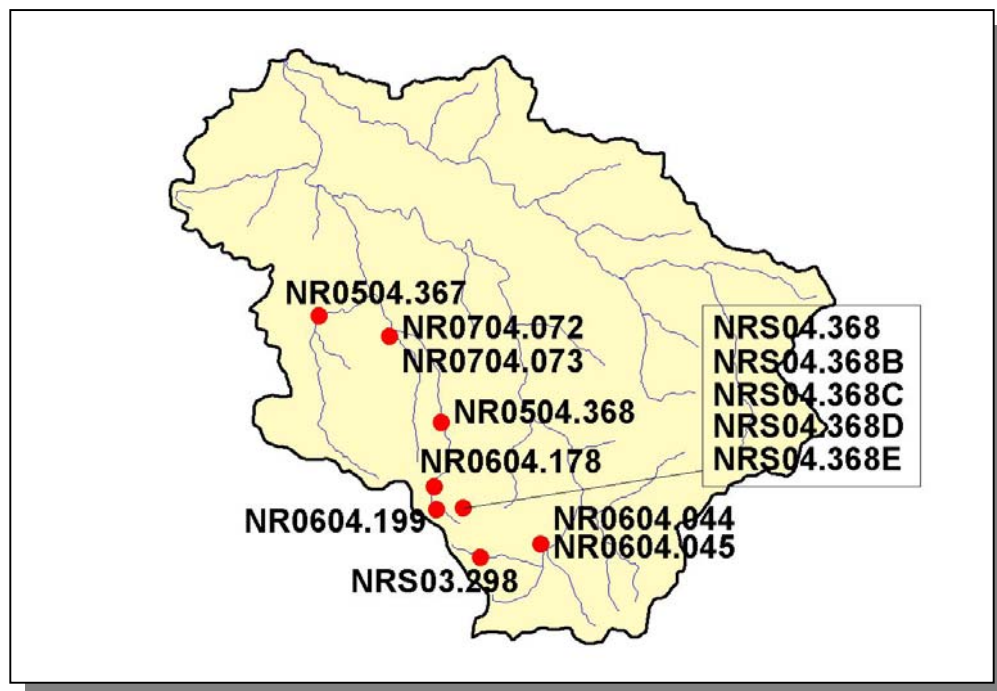


Figure 4-31. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060201. More information is provided in Appendix IV.



Figure 4-32. Location of TMSP Sites in Subwatershed 051302060201. More information, including the names of facilities, is provided in Appendix IV.

4.2.B.i.a.i. Dischargers to Water Bodies Listed on the 2004 303(d) List

There is one NPDES facility discharging to water bodies listed on the 2004 303(d) list in Subwatershed 051302060201:

- TN0059404 (White House STP) discharges to Frey Branch Creek @ RM 2.2



Figure 4-33. Location of NPDES Dischargers to Water Bodies Listed on the 2004 303(d) List in Subwatershed 051302060201. More information, including the names of facilities, is provided in Appendix IV.

PERMIT #	1Q10	3Q10	7Q10	3Q20	QDESIGN
TN0059404	Regulated		0.0		1.1

Table 4-19. Receiving Stream Flow Information for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060201. Data are in million gallons per day (MGD). Data were obtained from the USGS publication Flow Duration and Low Flows of Tennessee Streams Through 1992 or from permit files.

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PERMIT #	WET	CBOD ₅	NH ₃	TSS	SETTLEABLE SOLIDS	DO	pH	Flow
TN0059404	X	X	X	X	X	X	X	X

Table 4-20. Parameters Monitored for Daily Maximum Limits for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060201. WET, Whole Effluent Toxicity; CBOD₅, Carbonaceous Biochemical Oxygen Demand (5-Day), NH₃, ammonia; TSS, Total Suspended Solids; DO, Dissolved Oxygen.

PERMIT #	<i>E. coli</i>	FECAL COLIFORM
TN0059404	X	X

Table 4-21. Bacteria Monitored for Daily Maximum Limits for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060201.

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4.2.B.i.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
3,605	7,466	387	7	729	37

Table 4-22. Summary of Livestock Count Estimates in Subwatershed 051302060201.
According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Robertson	22,502	47,887	3,478	31	6,982	279
Sumner	22,296	45,116	1,515	50	2,500	189

Table 4-23. Summary of Livestock Count Estimates in Robertson and Sumner Counties.
According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Robertson	53.0	53.0	2.2	9.7
Sumner	88.2	88.2	2.0	6.3

Table 4-24. Forest Acreage and Annual Removal Rates (1987-1994) in Robertson and Sumner Counties.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.59
Grass (Hayland)	0.35
Legumes, Grass (Hayland)	0.41
Legumes (Hayland)	0.49
Grass, Forbs, Legumes (Mixed Pasture)	0.46
Corn (Row Crops)	7.91
Soybeans (Row Crops)	10.51
Wheat (Close-Grown Cropland)	1.68
Tobacco (Row Crops)	11.87
Other Cropland not Planted	13.31
Conservation Reserve Program Lands	0.32
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.71

Table 4-25. Annual Estimated Total Soil Loss in Subwatershed 051302060201.

4.2.B.ii. 051302060202 (South Fork Red River).

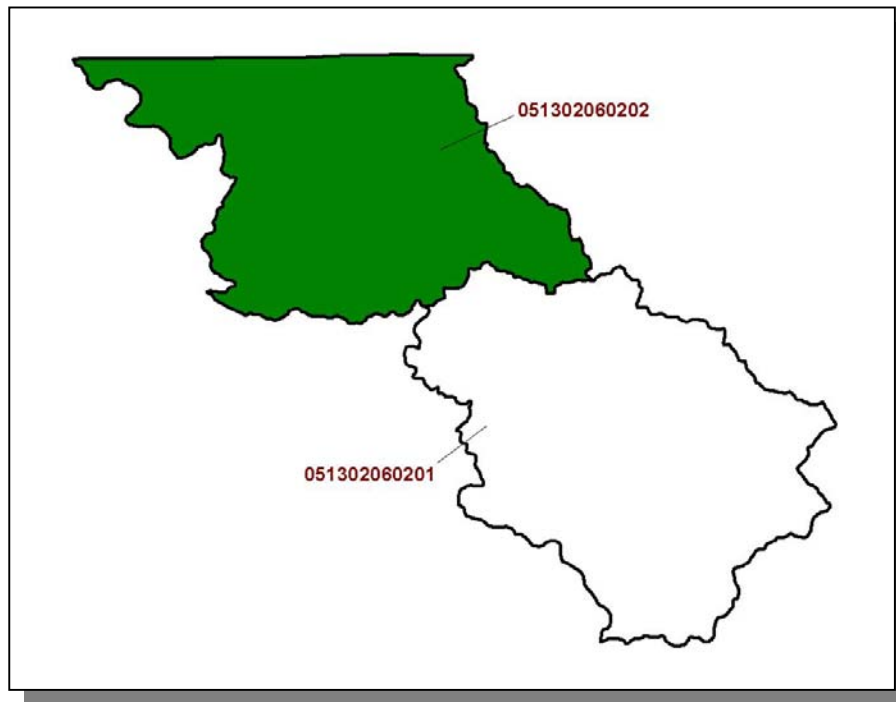


Figure 4-34. Location of Subwatershed 051302060202. All Red River HUC-12 subwatershed boundaries in Tennessee are shown for reference.

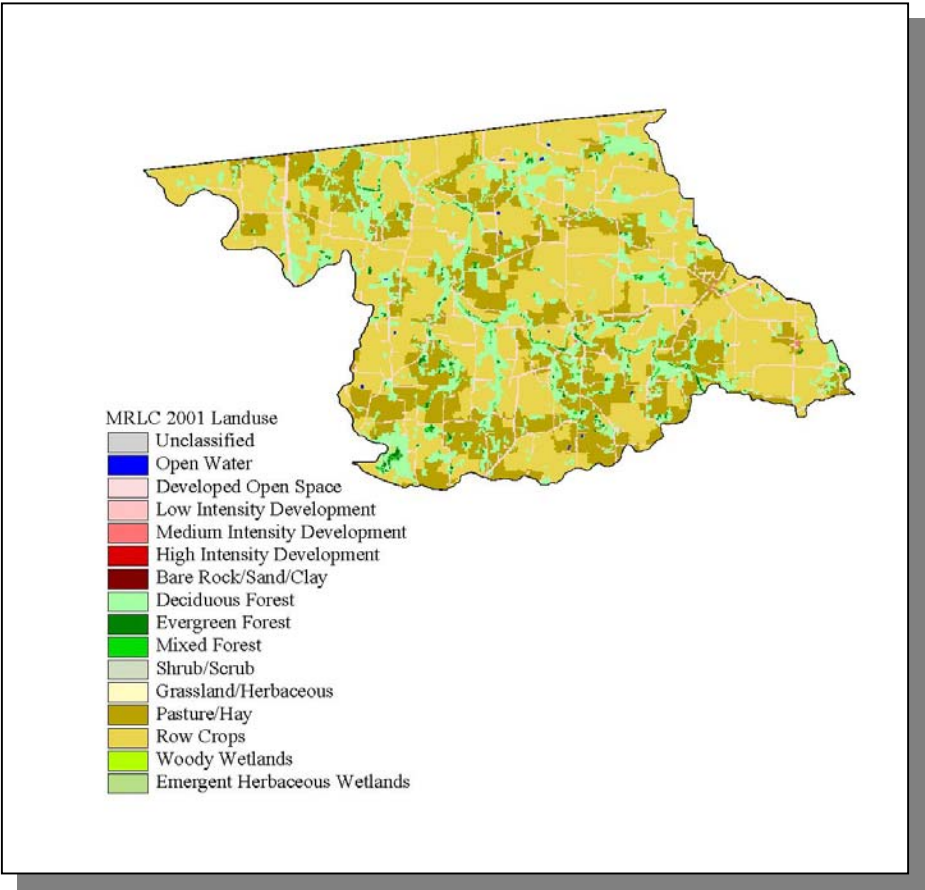


Figure 4-35. Illustration of Land Use Distribution in Subwatershed 051302060202.

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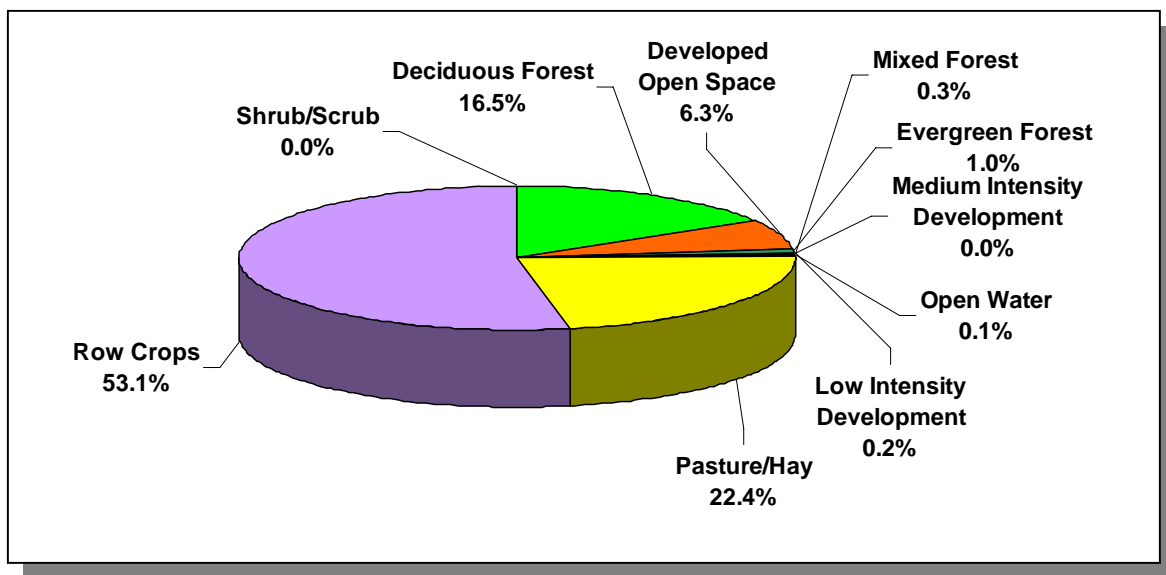


Figure 4-36. Land Use Distribution in Subwatershed 051302060202. More information is provided in Appendix IV.

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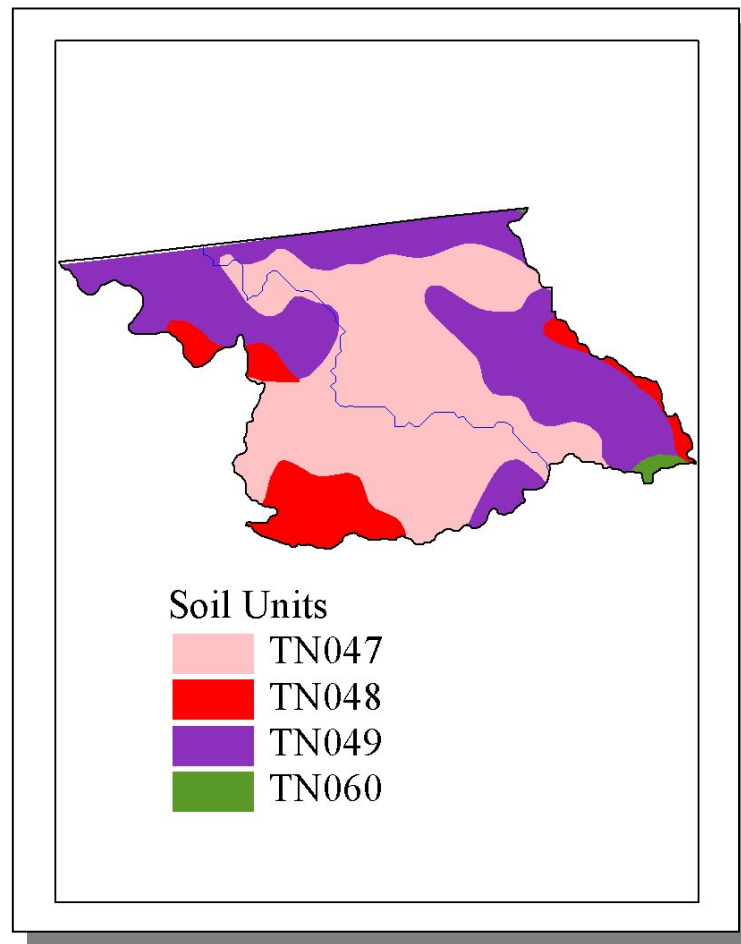


Figure 4-37. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060202.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN047	21.00	C	1.62	5.73	Silty Loam	0.37
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN049	0.00	C	1.30	5.94	Silty Loam	0.34
TN060	5.00	C	1.30	5.32	Silty Loam	0.39

Table 4-26. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060202. The definition of "Hydrologic Group" is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Robertson	41,494	51,533	54,433	10.11	4,195	5,209	5,503	31.2

Table 4-27. Population Estimates in Subwatershed 051302060202.

Populated Place	County	Population	NUMBER OF HOUSING UNITS			
			Total	Public Sewer	Septic Tank	Other
Cross Plains	Robertson	1,005	389	15	369	5
Orlinda	Robertson	476	199	2	194	3
Total		1,481	588	17	563	8

Table 4-28. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060202.

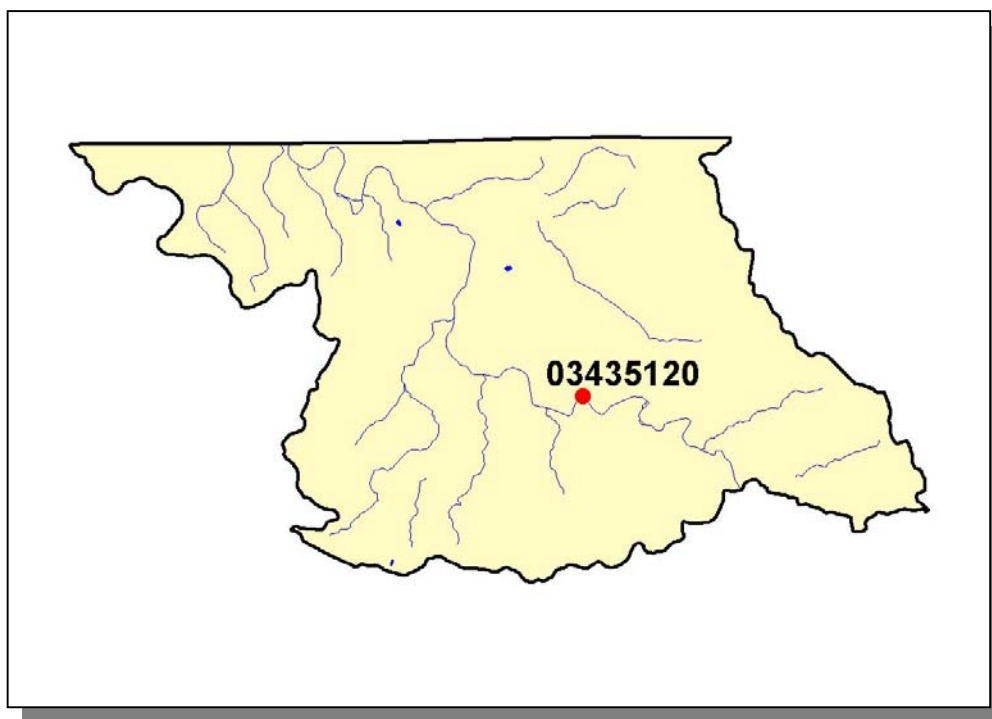


Figure 4-38. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060202. More information is provided in Appendix IV.

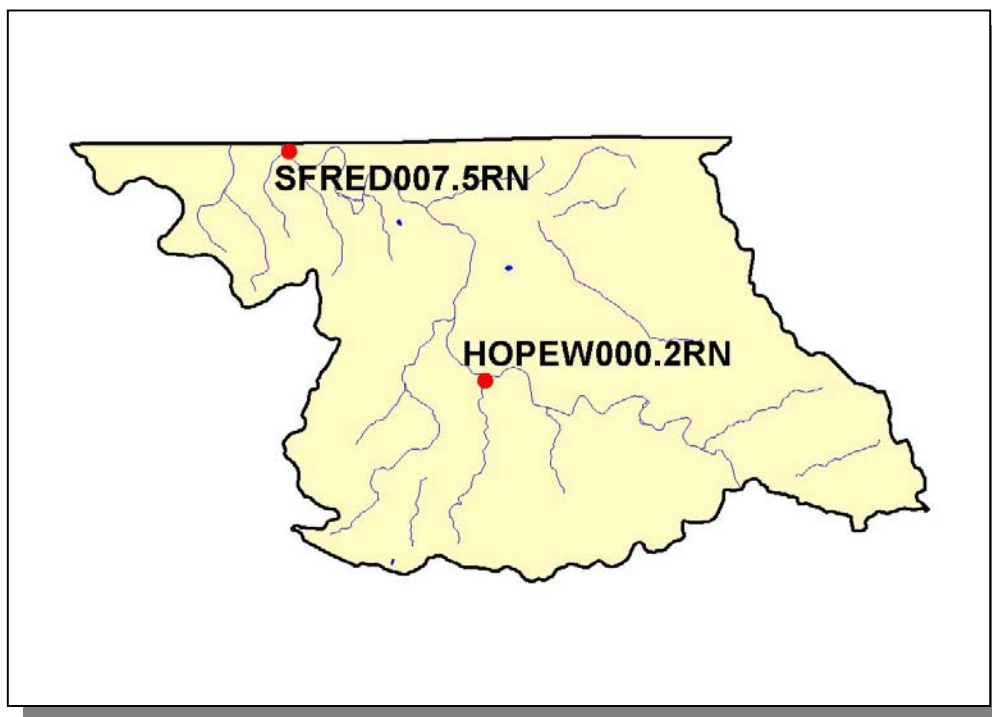


Figure 4-39. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060202. More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.B.ii.a. Point Source Contributions.

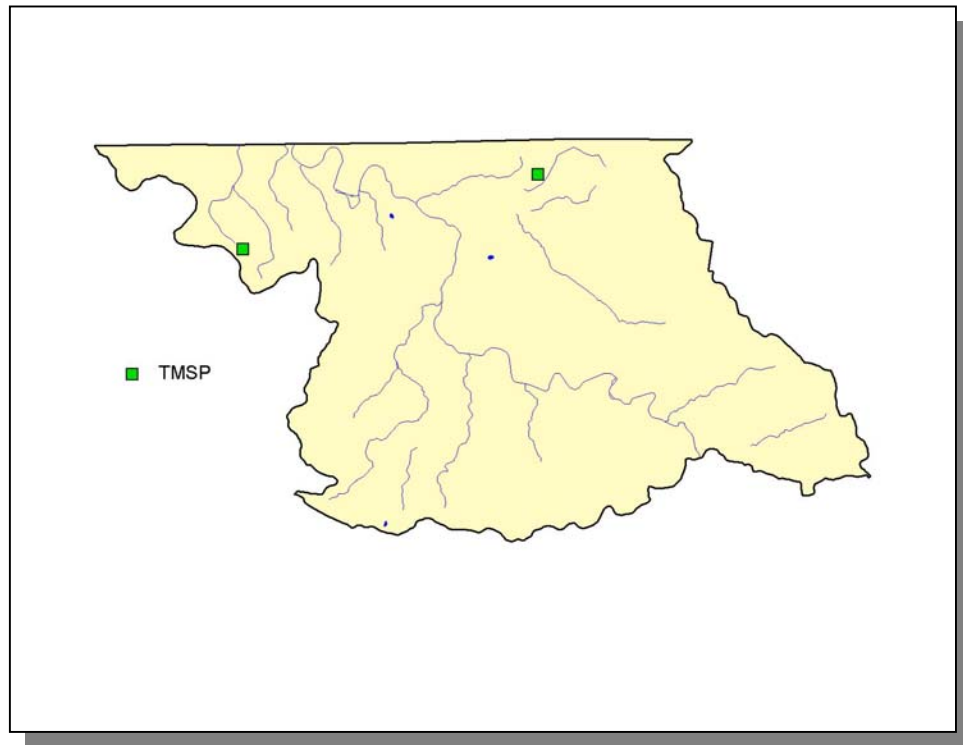


Figure 4-40. Location of Permits Issued in Subwatershed 051302060202. More information, including the names of facilities, is provided in Appendix IV.

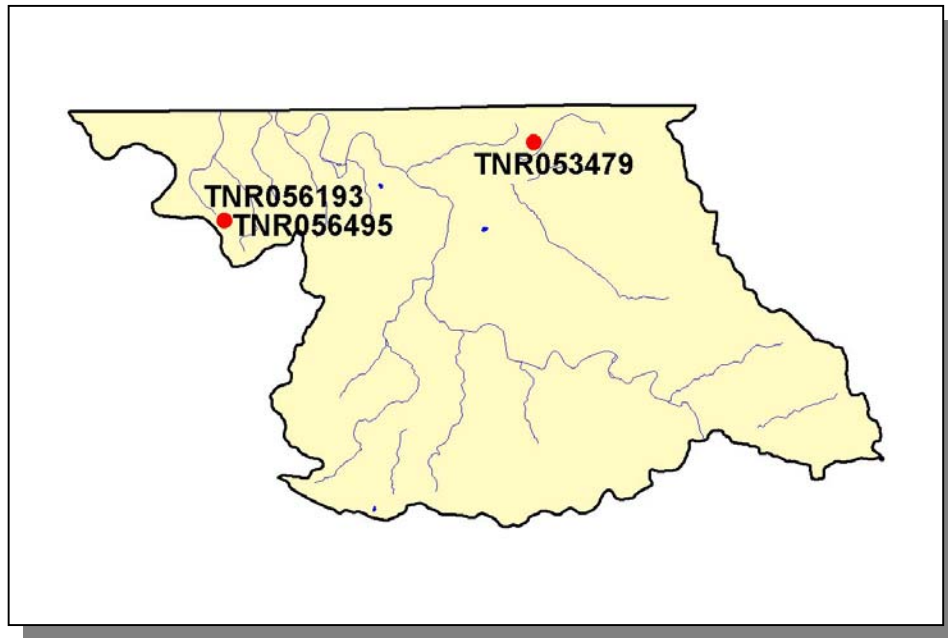


Figure 4-41. Location of TMSP Sites in Subwatershed 051302060202. More information, including the names of facilities, is provided in Appendix IV.

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4.2.B.ii.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
2,607	5,548	403	<5	809	32

Table 4-29. Summary of Livestock Count Estimates in Subwatershed 051302060202. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Robertson	22,502	47,887	3,478	31	6,982	279

Table 4-30. Summary of Livestock Count Estimates in Robertson County. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Robertson	53.0	53.0	2.2	9.7

Table 4-31. Forest Acreage and Annual Removal Rates (1987-1994) in Robertson County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.67
Grass (Hayland)	0.37
Legumes, Grass (Hayland)	0.53
Legumes (Hayland)	0.73
Grass, Forbs, Legumes (Mixed Pasture)	0.42
Corn (Row Crops)	5.15
Soybeans (Row Crops)	10.03
Tobacco (Row Crops)	11.87
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	9.59
Conservation Reserve Program Lands	0.36
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.95

Table 4-32. Annual Estimated Total Soil Loss in Subwatershed 051302060202.

4.2.C. 0513020604.

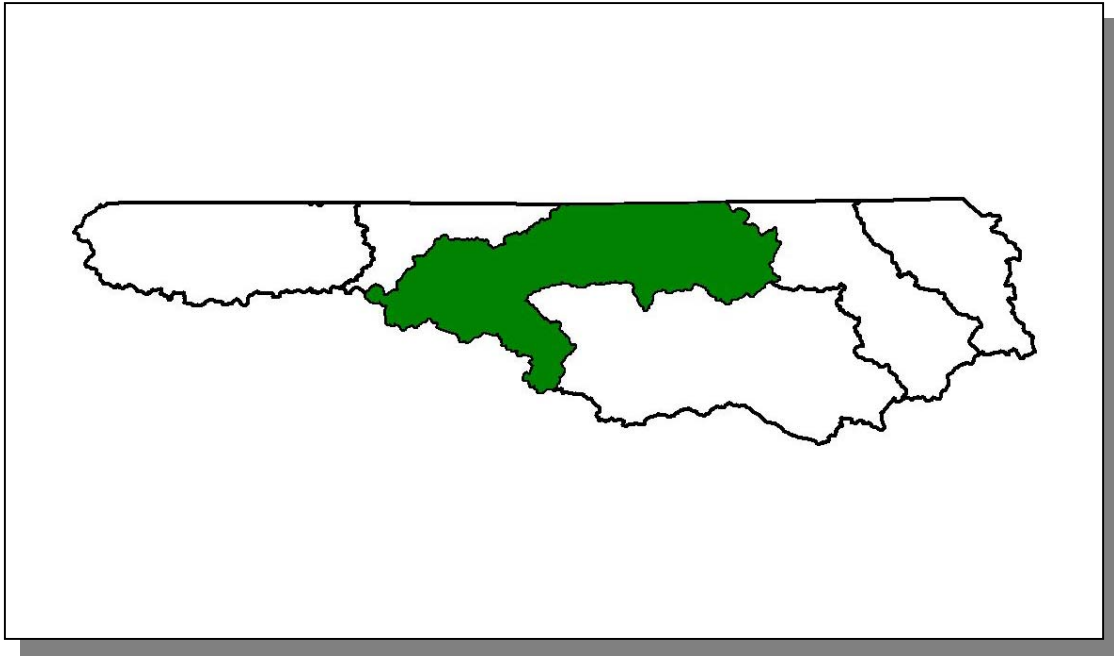


Figure 4-42. Location of Subwatershed 0513020604. All Red River HUC-10 subwatershed boundaries in Tennessee are shown for reference.

4.2.C.i. 051302060401 (Red River).

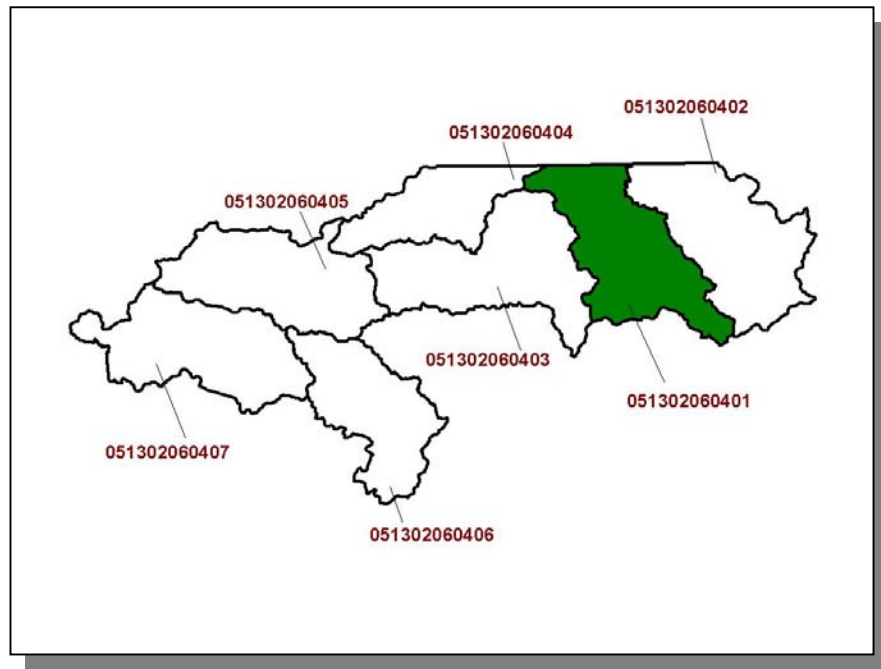


Figure 4-43. Location of Subwatershed 051302060401. All Red River HUC-12 subwatershed boundaries in Tennessee are shown for reference.

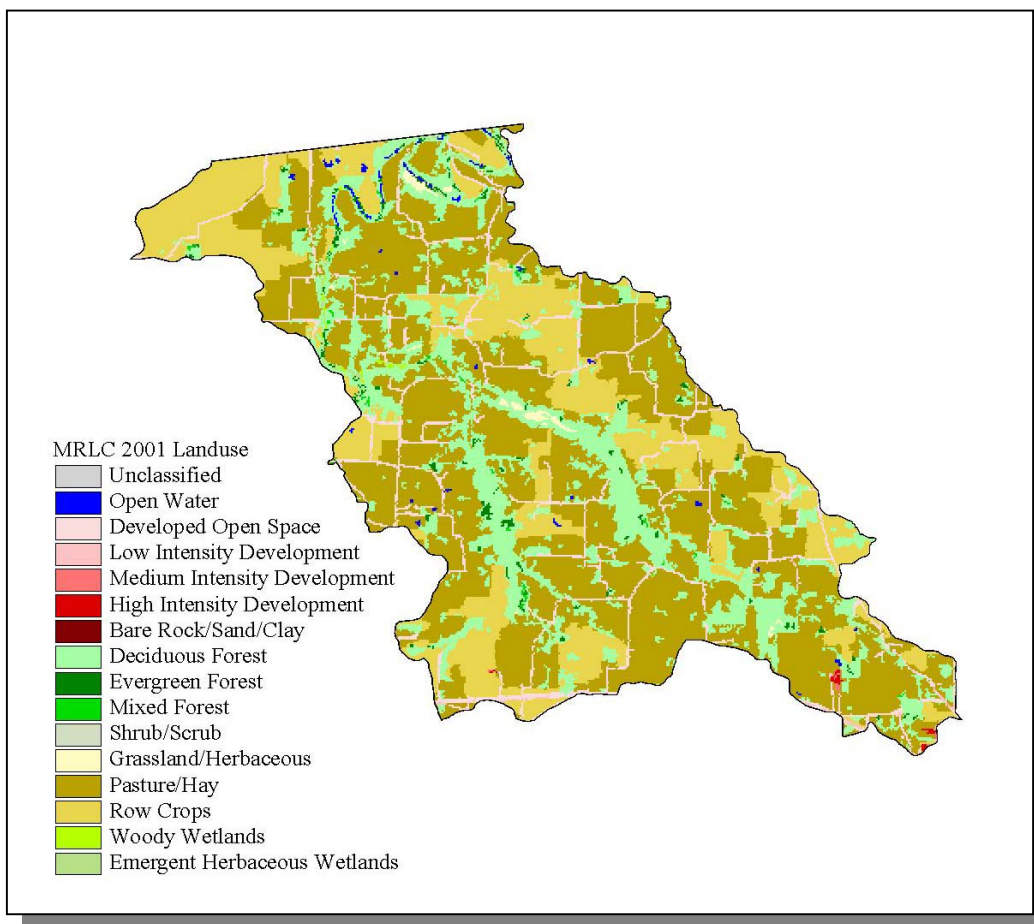


Figure 4-44. Illustration of Land Use Distribution in Subwatershed 051302060401.

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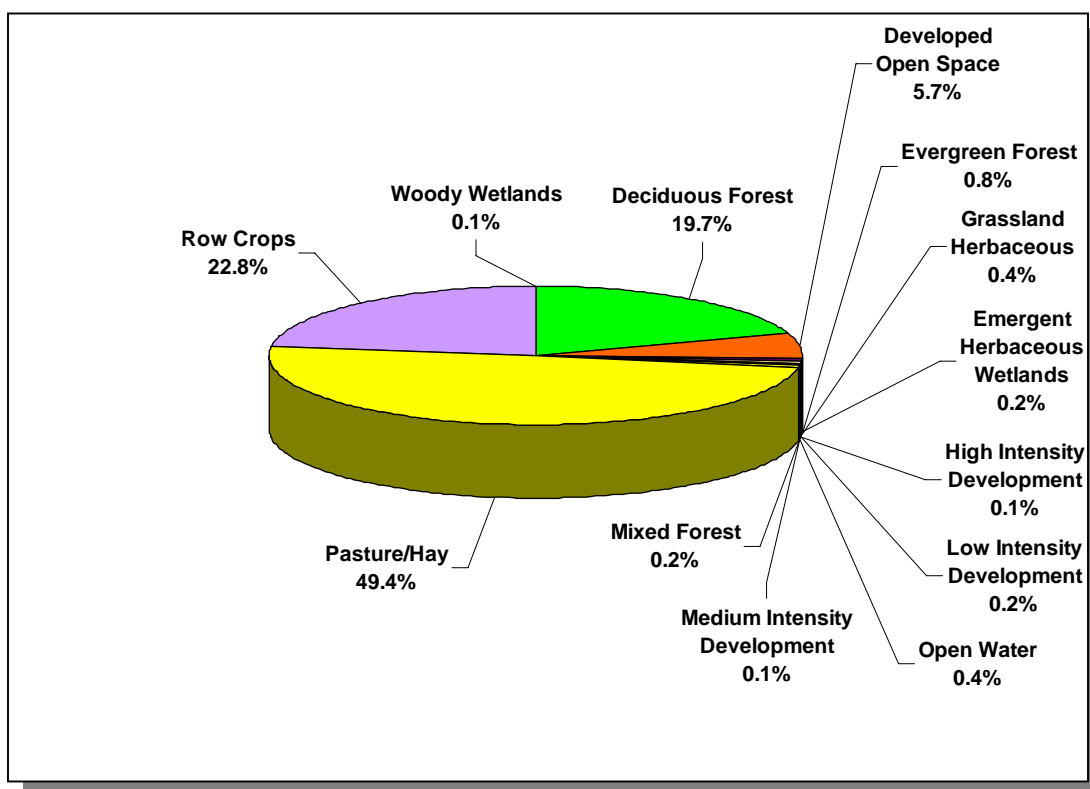


Figure 4-45. Land Use Distribution in Subwatershed 051302060401. More information is provided in Appendix IV.

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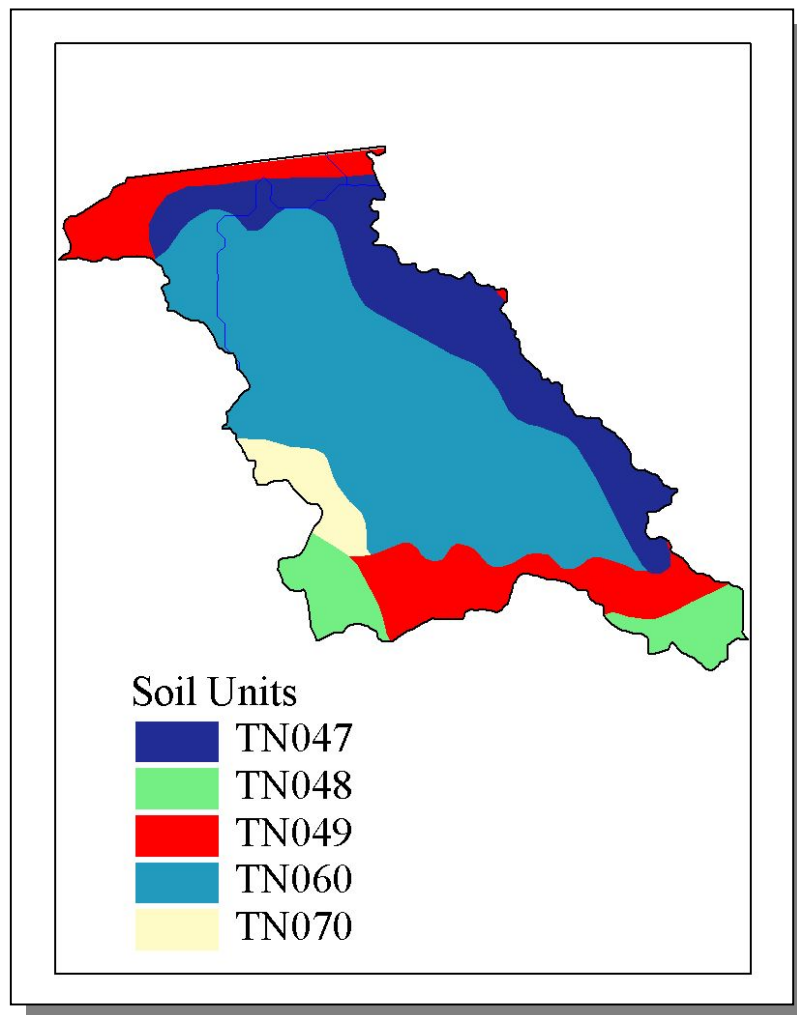


Figure 4-46. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060401.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN047	21.00	C	1.62	5.73	Silty Loam	0.37
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN049	0.00	C	1.30	5.94	Silty Loam	0.34
TN060	5.00	C	1.30	5.32	Silty Loam	0.39
TN070	0.00	B	1.38	5.76	Loam	0.33

Table 4-33. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060401. The definition of "Hydrologic Group" is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Robertson	41,494	51,533	54,433	5.63	2,334	2,899	3,062	31.2

Table 4-34. Population Estimates in Subwatershed 060102060401.

Populated Place	County	Population	NUMBER OF HOUSING UNITS			
			Total	Public Sewer	Septic Tank	Other
Cedar Hill	Robertson	363	128	16	105	7
Springfield	Robertson	11,227	4,530	4,436	94	0
Total		11,590	4,658	4,452	199	7

Table 4-35. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060401.

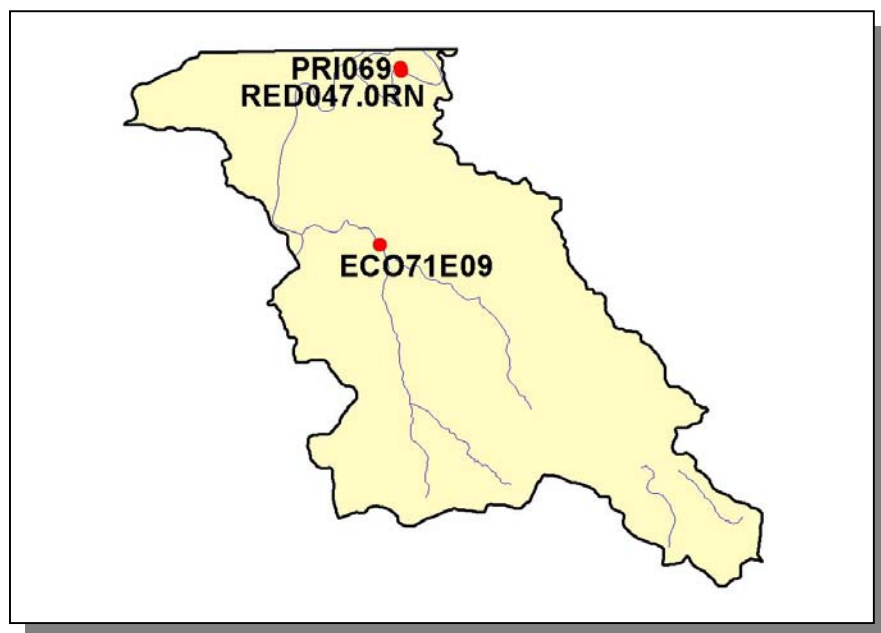


Figure 4-47. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060401. More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.C.i.a. Point Source Contributions.

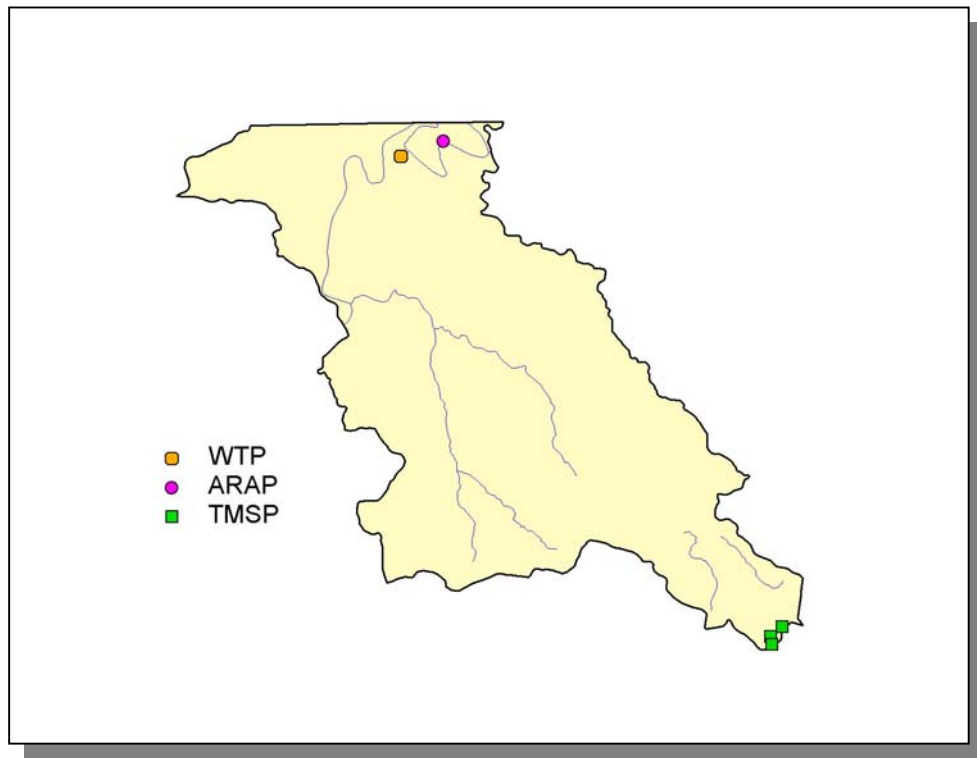


Figure 4-48. Location of Permits Issued in Subwatershed 051302060401. More information, including the names of facilities, is provided in Appendix IV.

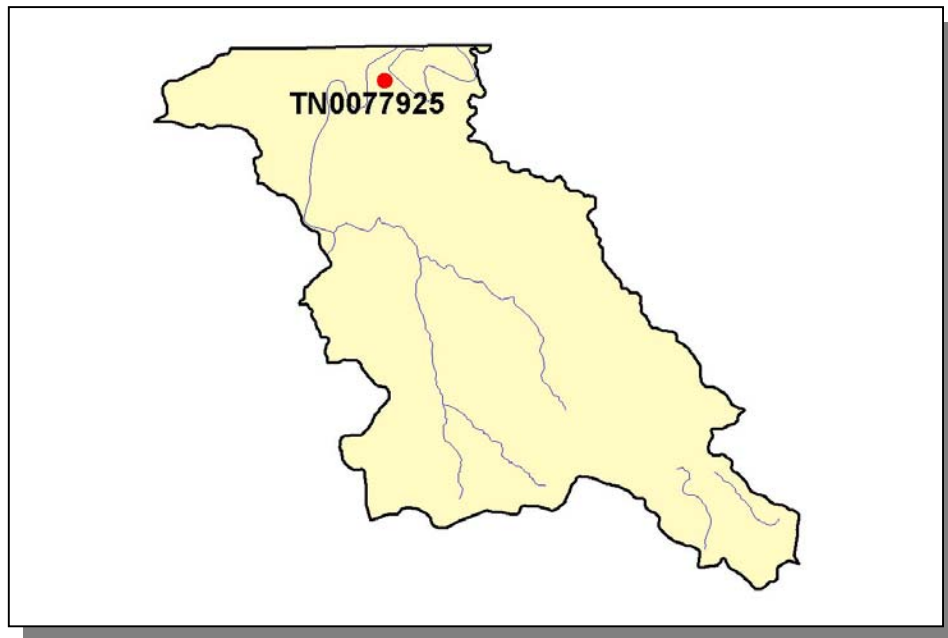


Figure 4-49. Location of Water Treatment Plants in Subwatershed 051302060401. More information, including the names of facilities, is provided in Appendix IV.



Figure 4-50. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060401. More information is provided in Appendix IV.

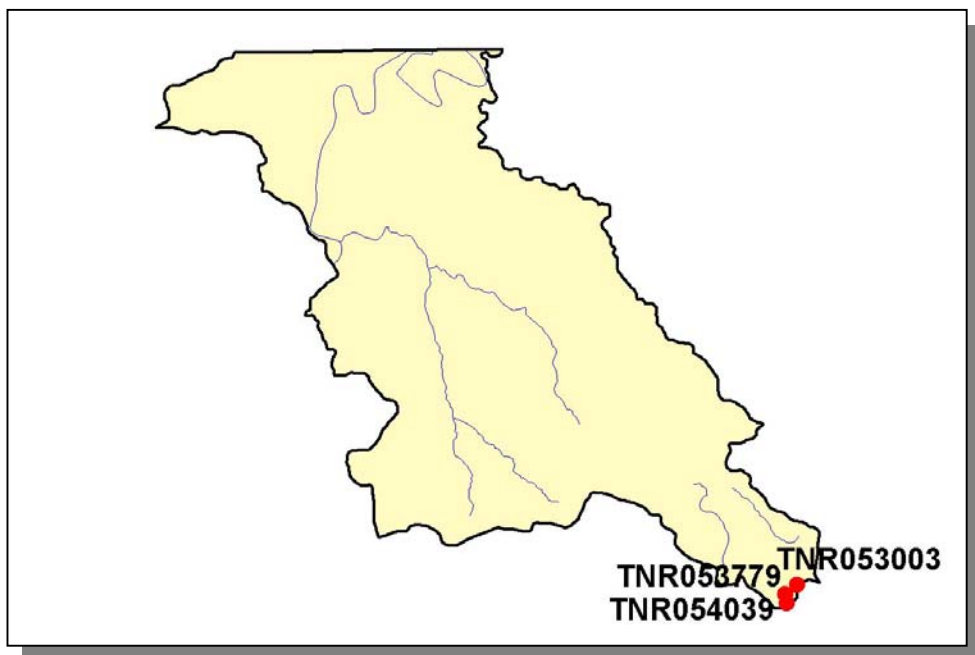


Figure 4-51. Location of TMSP Sites in Subwatershed 051302060401. More information, including the names of facilities, is provided in Appendix IV.

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4.2.C.i.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
1,572	3,345	243	<5	488	19

Table 4-36. Summary of Livestock Count Estimates in Subwatershed 051302060401. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Robertson	22,502	47,887	3,478	31	6,982	279

Table 4-37. Summary of Livestock Count Estimates in Robertson County. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Robertson	53.0	53.0	2.2	9.7

Table 4-38. Forest Acreage and Annual Removal Rates (1987-1994) in Robertson County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.67
Grass (Hayland)	0.37
Legumes, Grass (Hayland)	0.53
Legumes (Hayland)	0.73
Grass, Forbs, Legumes (Mixed Pasture)	0.42
Corn (Row Crops)	5.15
Soybeans (Row Crops)	10.03
Tobacco (Row Crops)	11.87
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	9.59
Conservation Reserve Program Lands	0.36
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.95

Table 4-39. Annual Estimated Total Soil Loss in Subwatershed 051302060401.

4.2.C.ii. 051302060402 (Spring Creek).

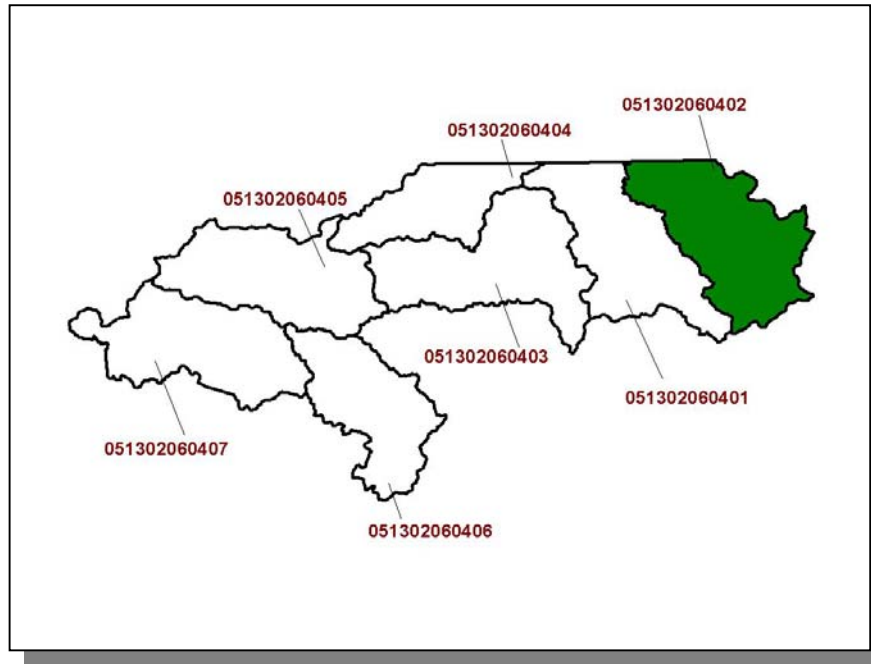


Figure 4-52. Location of Subwatershed 051302060402. All HUC-12 subwatershed boundaries are shown for reference.

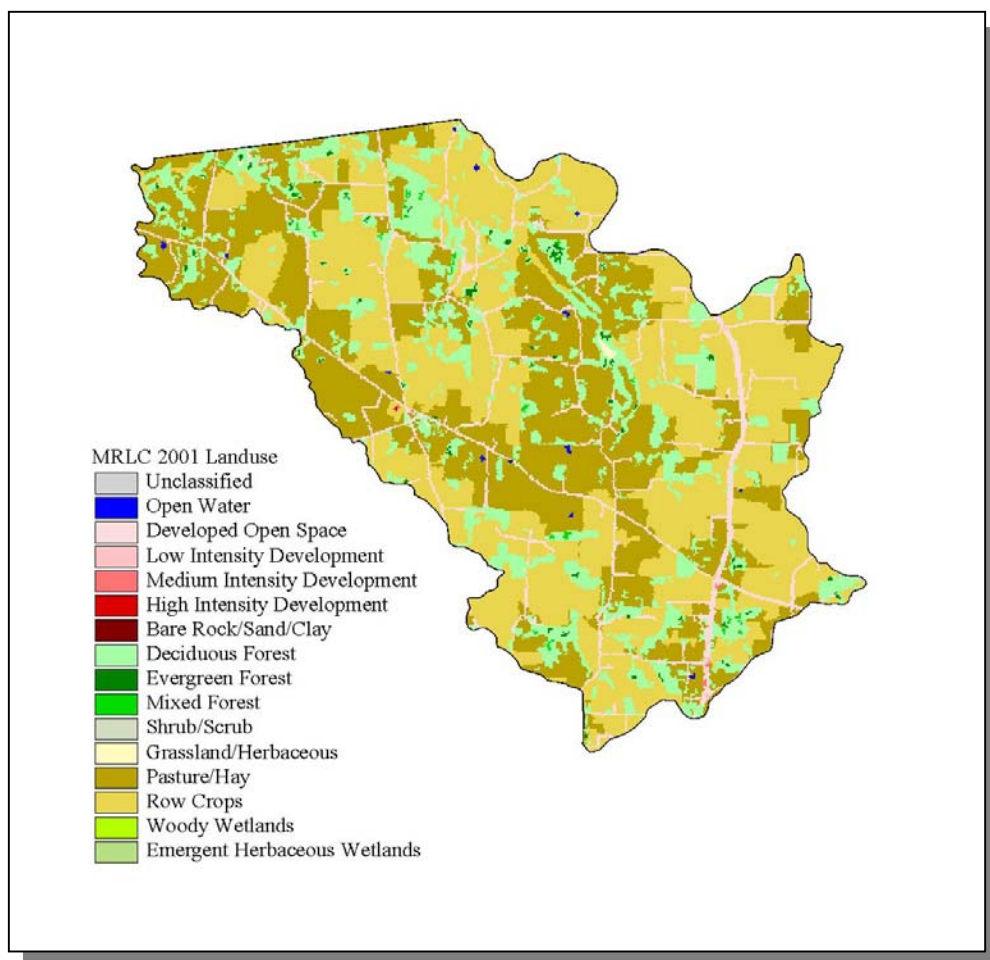


Figure 4-53. Illustration of Land Use Distribution in Subwatershed 051302060402.

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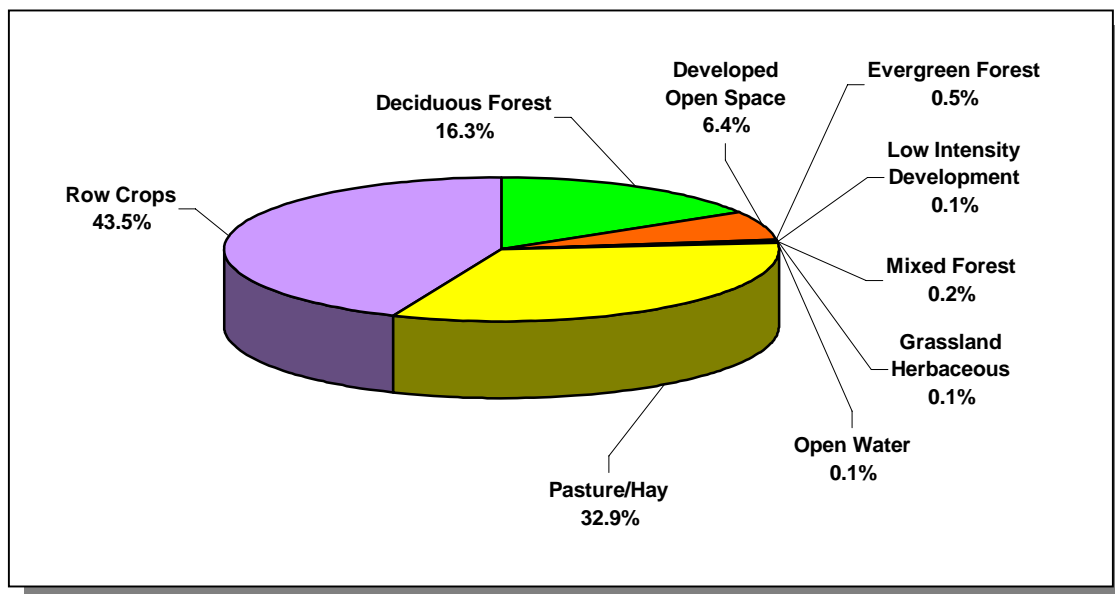


Figure 4-54. Land Use Distribution in Subwatershed 051302060402. More information is provided in Appendix IV.

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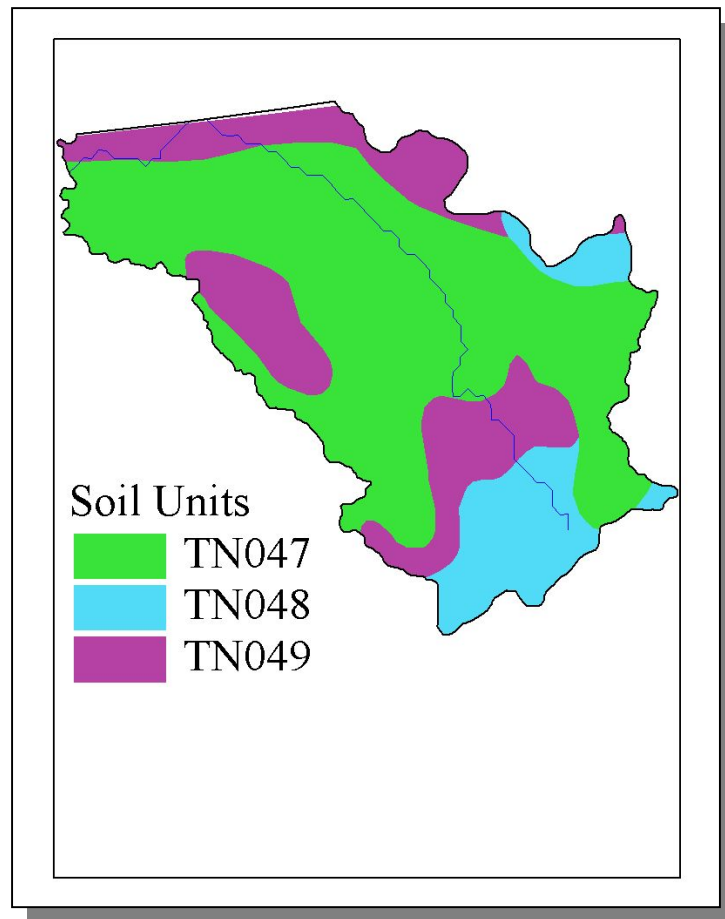


Figure 4-55. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060402.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN047	21.00	C	1.62	5.73	Silty Loam	0.37
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN049	0.00	C	1.30	5.94	Silty Loam	0.34

Table 4-40. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060402. The definition of "Hydrologic Group" is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Robertson	41,494	51,533	54,433	5.95	2,467	3,064	3,237	31.2

Table 4-41. Population Estimates in Subwatershed 051302060402.

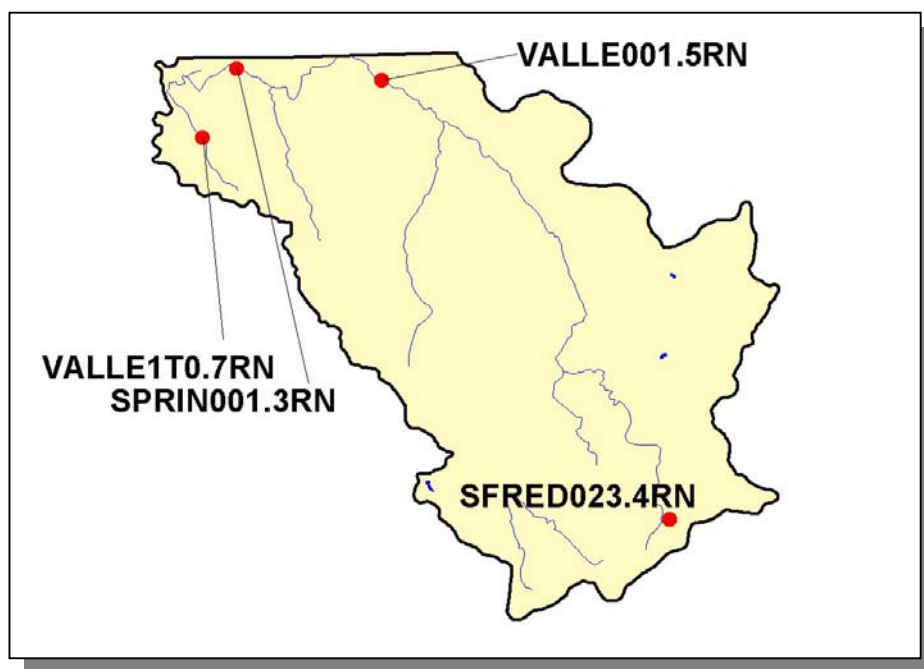


Figure 4-56. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060402. More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.C.ii.a. Point Source Contributions.

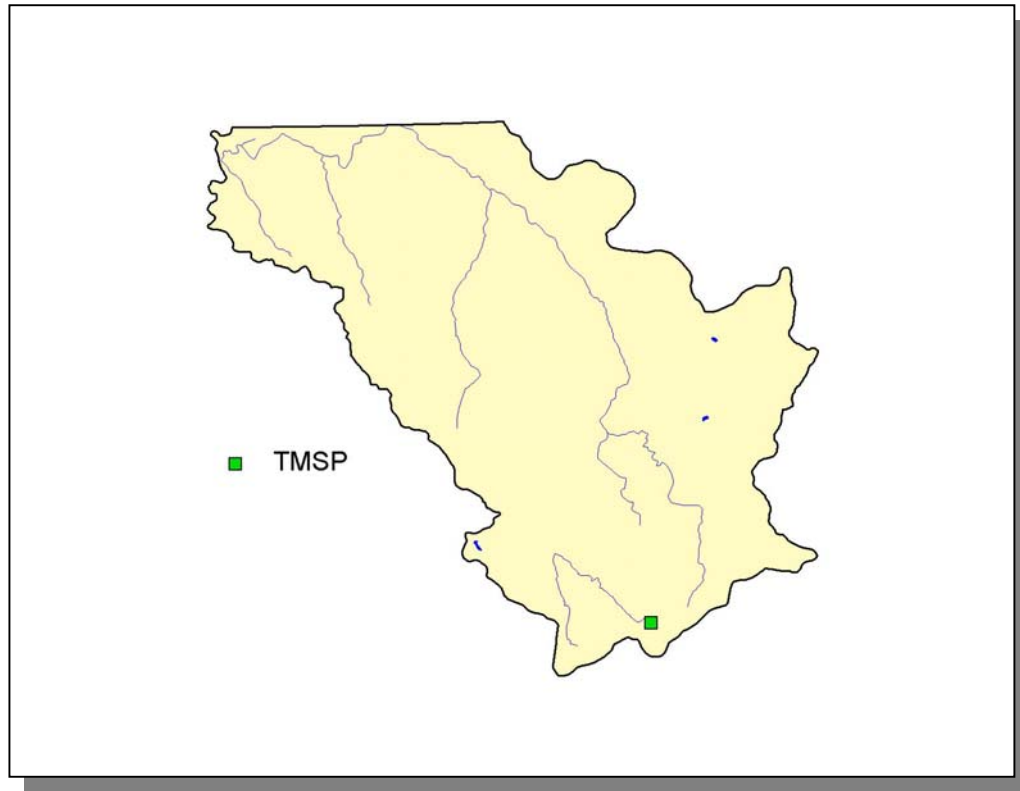


Figure 4-57. Location of Permits Issued in Subwatershed 051302060402. More information, including the names of facilities, is provided in Appendix IV.



Figure 4-58. Location of TMSF Sites in Subwatershed 051302060402. More information, including the names of facilities, is provided in Appendix IV.

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4.2.C.ii.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
1,364	2,903	211	<5	423	17

Table 4-42. Summary of Livestock Count Estimates in Subwatershed 051302060402. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Robertson	22,502	47,887	3,478	31	6,982	279

Table 4-43. Summary of Livestock Count Estimates in Robertson County. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Robertson	53.0	53.0	2.2	9.7

Table 4-44. Forest Acreage and Annual Removal Rates (1987-1994) in Robertson County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.67
Grass (Hayland)	0.37
Legumes, Grass (Hayland)	0.53
Legumes (Hayland)	0.73
Grass, Forbs, Legumes (Mixed Pasture)	0.42
Corn (Row Crops)	5.15
Soybeans (Row Crops)	10.03
Tobacco (row Crops)	11.87
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	9.59
Conservation Reserve Program Lands	0.36
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.95

Table 4-45. Annual Estimated Total Soil Loss in Subwatershed 051302060402.

4.2.C.iii. 051302060403 (Red River).

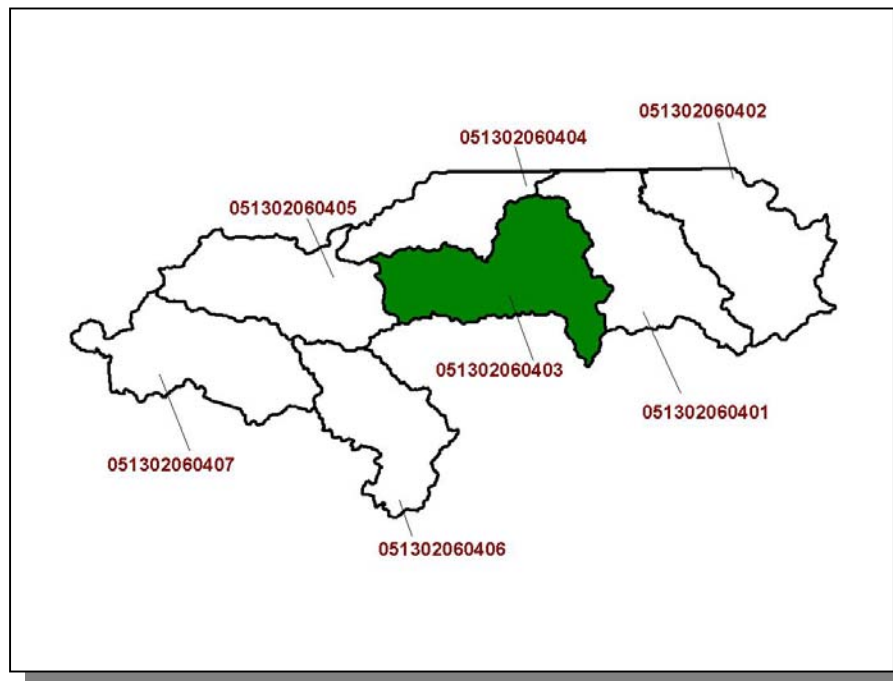


Figure 4-59. Location of Subwatershed 051302060403. All Red River HUC-12 subwatershed boundaries in Tennessee are shown for reference.

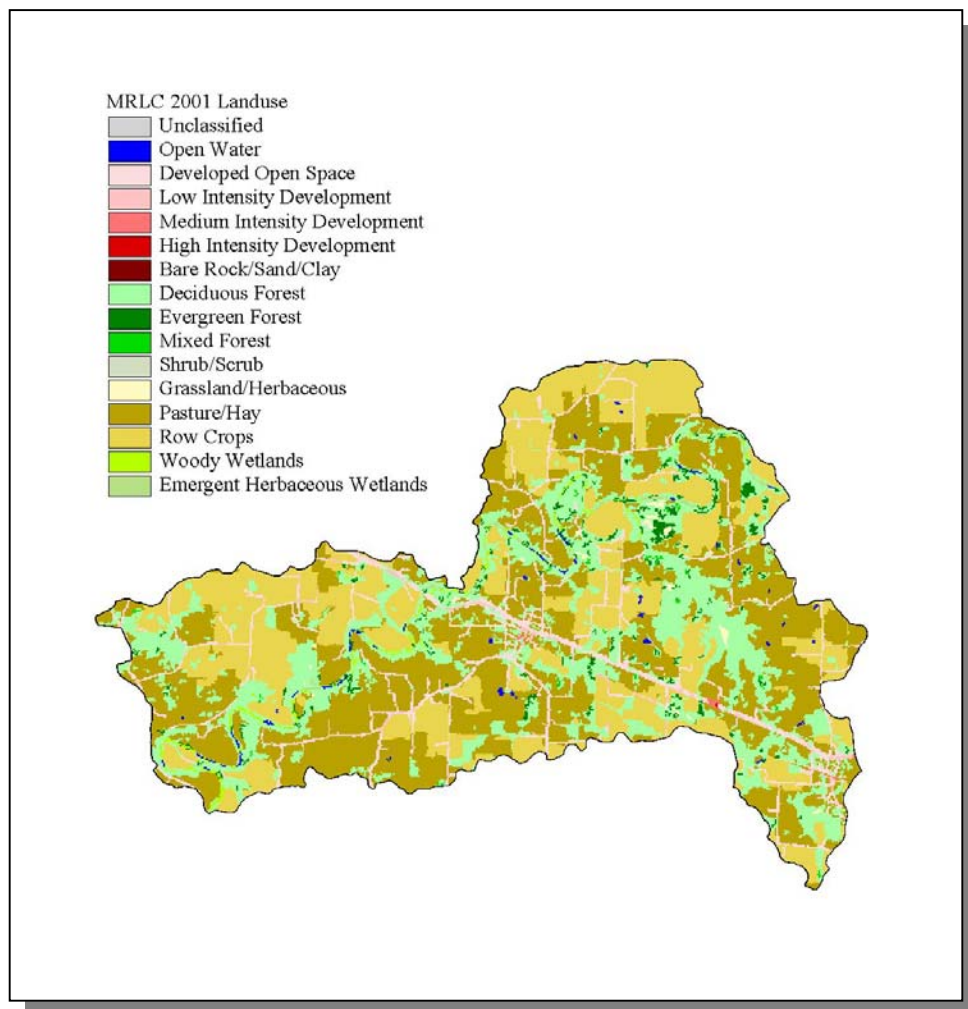


Figure 4-60. Illustration of Land Use Distribution in Subwatershed 051302060403.

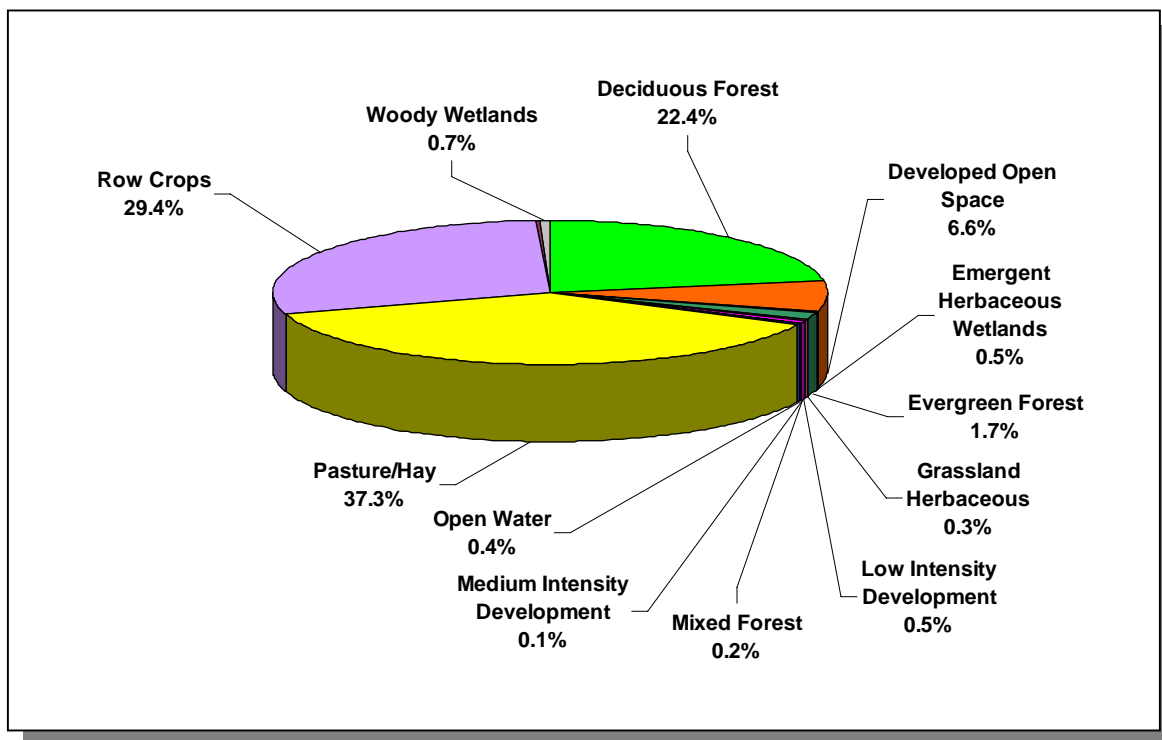


Figure 4-61. Land Use Distribution in Subwatershed 051302060403. More information is provided in Appendix IV.

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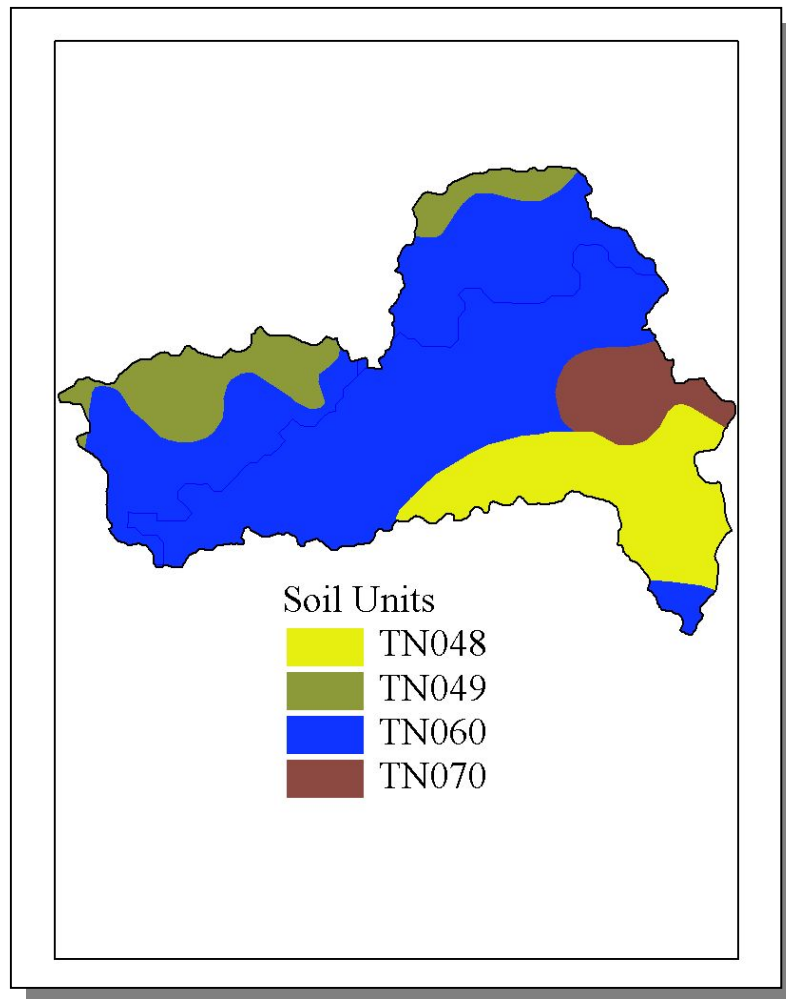


Figure 4-62. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060403.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN049	0.00	C	1.30	5.94	Silty Loam	0.34
TN060	5.00	C	1.30	5.32	Silty Loam	0.39
TN070	0.00	B	1.38	5.76	Loam	0.33

Table 4-46. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060403. The definition of “Hydrologic Group” is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Montgomery	100,498	124,369	134,768	0.72	722	894	968	34.1
Robertson	41,494	51,533	54,433	5.49	2,277	2,828	2,988	31.2
Total	141,992	175,902	189,201		2,999	3,722	3,956	31.9

Table 4-47. Population Estimates in Subwatershed 051302060403.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Adams	Robertson	571	241	18	215	8
Cedar Hill	Robertson	363	128	16	105	7
Total		934	369	34	320	15

Table 4-48. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060403.

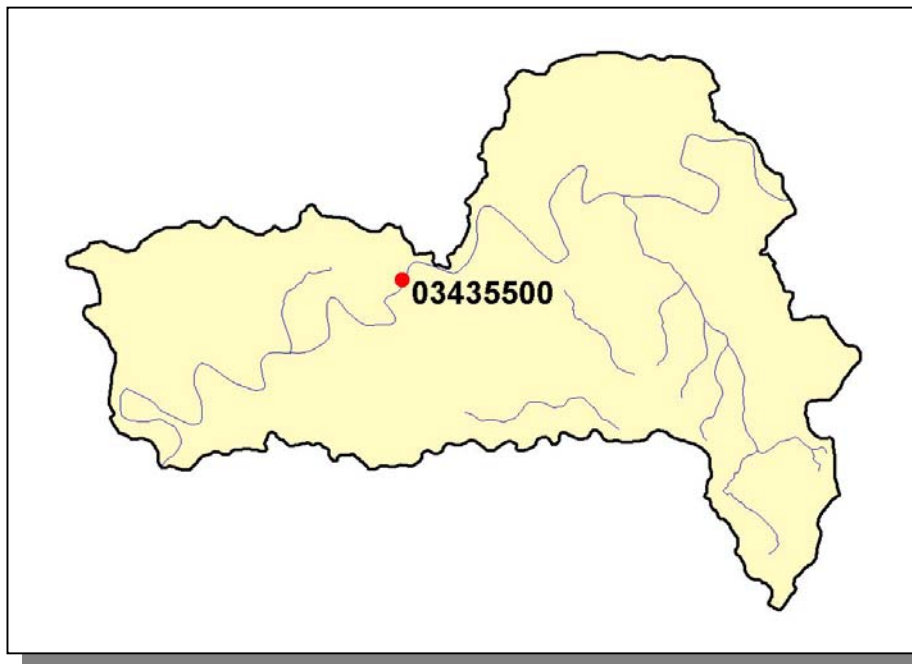


Figure 4-63. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060403. More information is provided in Appendix IV.



Figure 4-64. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060403. More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.C.iii.a. Point Source Contributions.

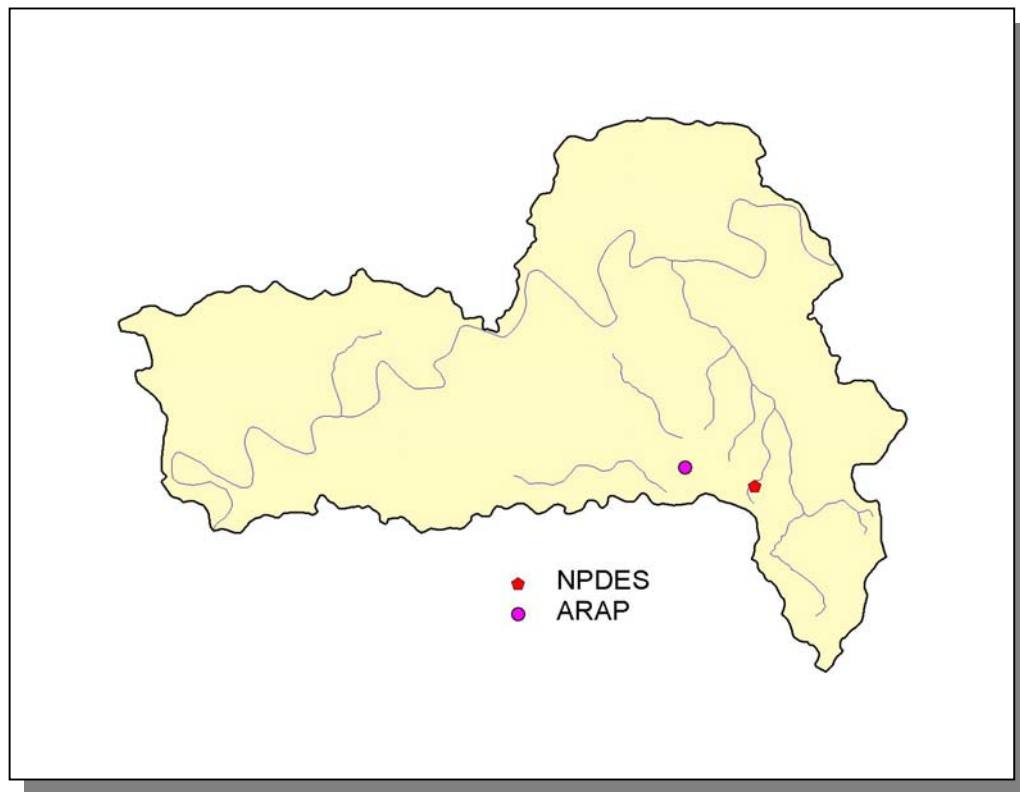


Figure 4-65. Location of Permits Issued in Subwatershed 051302060403. More information, including the names of facilities, is provided in Appendix IV.



Figure 4-66. Location of Active NPDES Sites in Subwatershed 051302060403. More information, including the names of facilities, is provided in Appendix IV.

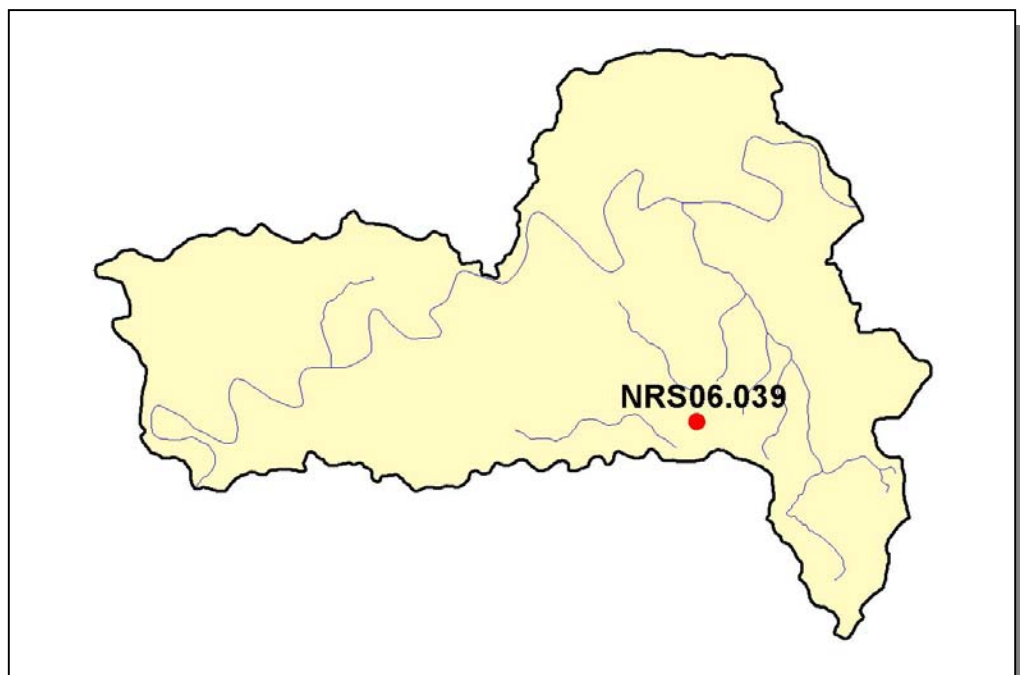


Figure 4-67. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060403. More information is provided in Appendix IV.

4.2.C.iii.a.i. Dischargers to Water Bodies Listed on the 2004 303(d) List

There is one NPDES facility discharging to water bodies listed on the 2004 303(d) list in Subwatershed 051302060403:

- TN0058076 (Jo Byrnes School) discharges to an unnamed tributary @ RM 1.1 to Sturgeon Creek @ RM 2.4 Branch Creek @ RM 2.2

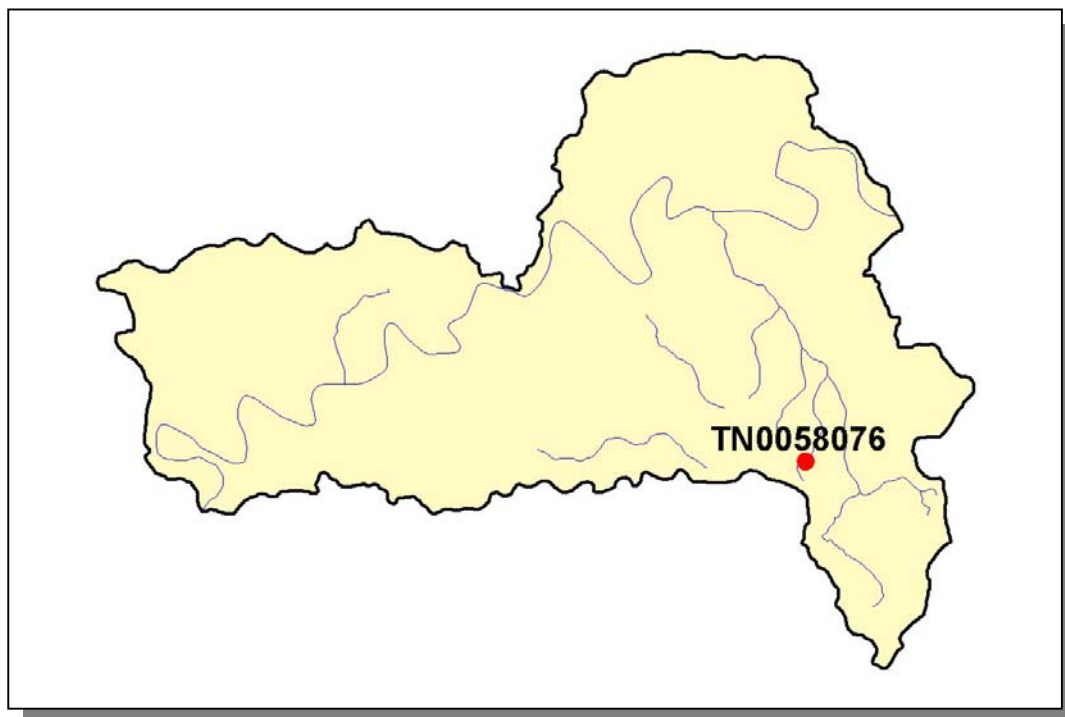


Figure 4-68. Location of NPDES Dischargers to Water Bodies Listed on the 2004 303(d) List in Subwatershed 051302060403. More information, including the names of facilities, is provided in Appendix IV.

PERMIT #	1Q10	3Q10	7Q10	3Q20	QDESIGN
TN0058076				0	0.025

Table 4-49. Receiving Stream Flow Information for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060403. Data are in million gallons per day (MGD). Data were obtained from the USGS publication Flow Duration and Low Flows of Tennessee Streams Through 1992 or from permit files.

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PERMIT #	CBOD ₅	NH ₃	TSS	TRC	SETTLEABLE SOLIDS	DO	pH	FLOW
TN0058076	X	X	X	X	X	X	X	X

Table 4-50. Parameters Monitored for Daily Maximum Limits for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060403. WET, Whole Effluent Toxicity; CBOD₅, Carbonaceous Biochemical Oxygen Demand (5-Day); NH₃, Ammonia; TSS, Total Suspended Solids; TRC, Total Residual Chlorine; DO, Dissolved Oxygen.

PERMIT #	FECAL COLIFORM
TN0058076	X

Table 4-51. Bacteria Monitored for Daily Maximum Limits for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060403.

4.2.C.iii.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
1,714	3,583	230	<5	460	19

Table 4-52. Summary of Livestock Count Estimates in Subwatershed 051302060403. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Montgomery	16,051	30,959	760	913	1,408	107
Robertson	22,502	47,887	3,478	31	6,982	279

Table 4-53. Summary of Livestock Count Estimates in Montgomery and Robertson Counties. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

INVENTORY			REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Montgomery				
Robertson	53.0	53.0	2.2	9.7

Table 4-54. Forest Acreage and Annual Removal Rates (1987-1994) in Montgomery and Robertson Counties.

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CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.64
Grass (Hayland)	0.36
Legumes, Grass (Hayland)	0.51
Legumes (Hayland)	0.73
Grass, Forbs, Legumes (Mixed Pasture)	0.44
Corn (Row Crops)	5.52
Soybeans (Row Crops)	9.29
Tobacco (Row Crops)	13.19
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	9.59
Conservation Reserve Program Lands	0.37
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.83

Table 4-55. Annual Estimated Total Soil Loss in Subwatershed 051302060403.

4.2.C.iv. 051302060404 (Elk Fork Creek).

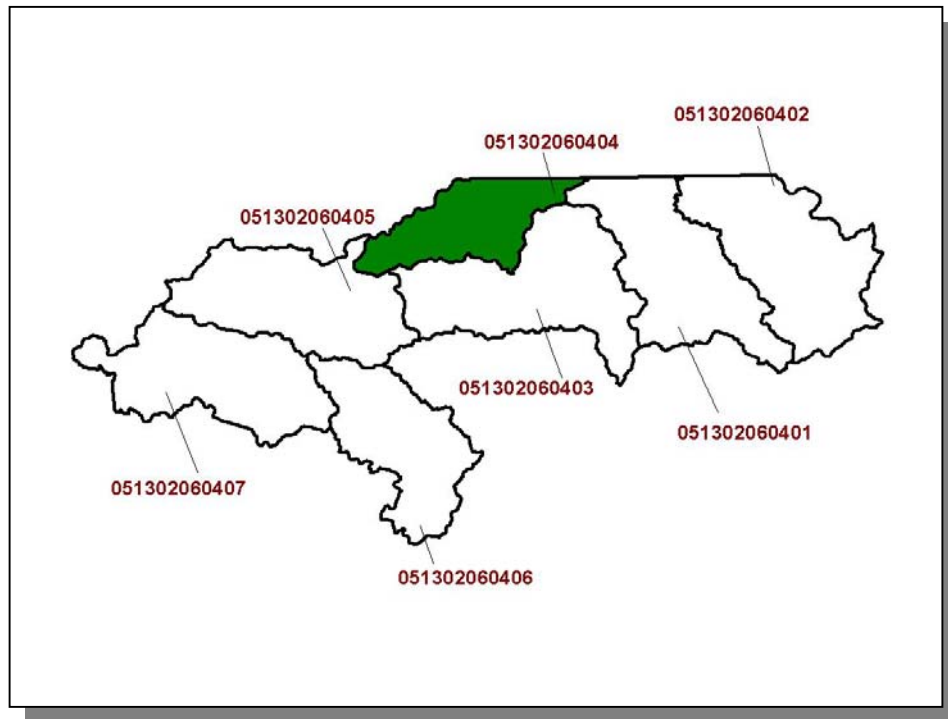


Figure 4-69. Location of Subwatershed 051302060404. All HUC-12 subwatershed boundaries are shown for reference.

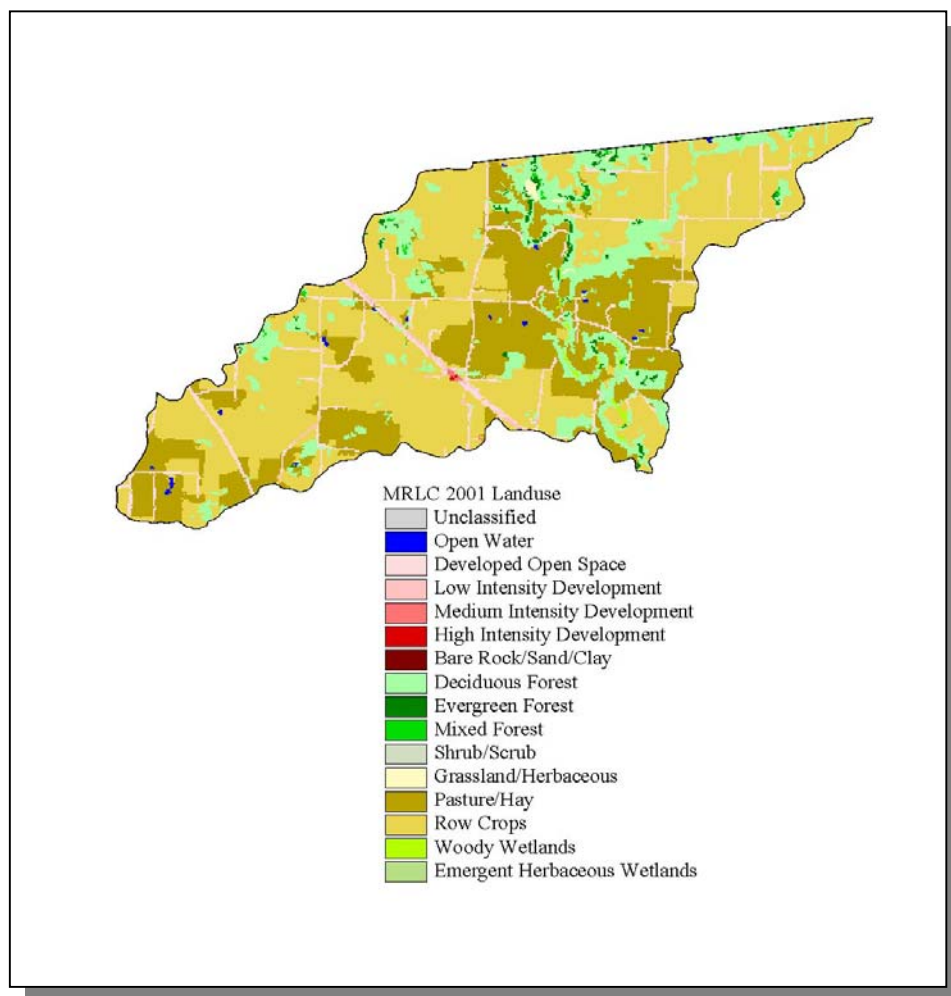


Figure 4-70. Illustration of Land Use Distribution in Subwatershed 051302060404.

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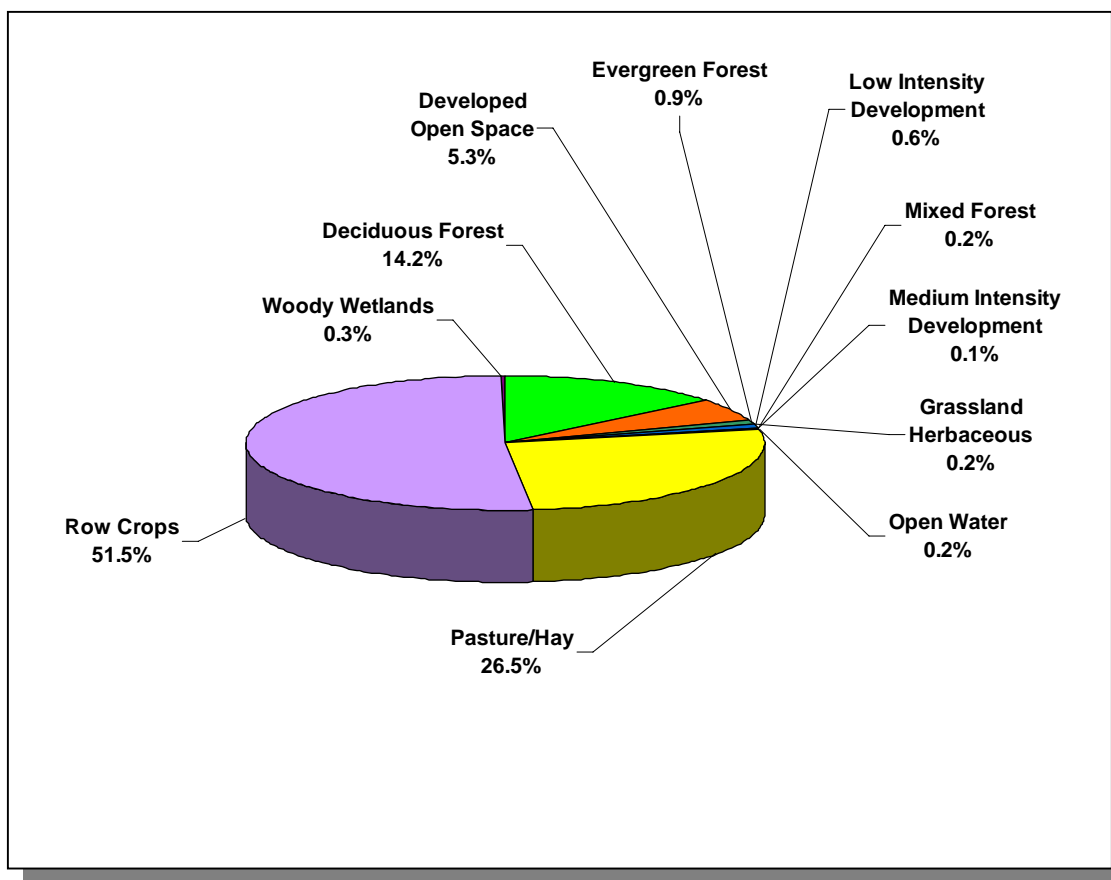


Figure 4-71. Land Use Distribution in Subwatershed 051302060404. More information is provided in Appendix IV.

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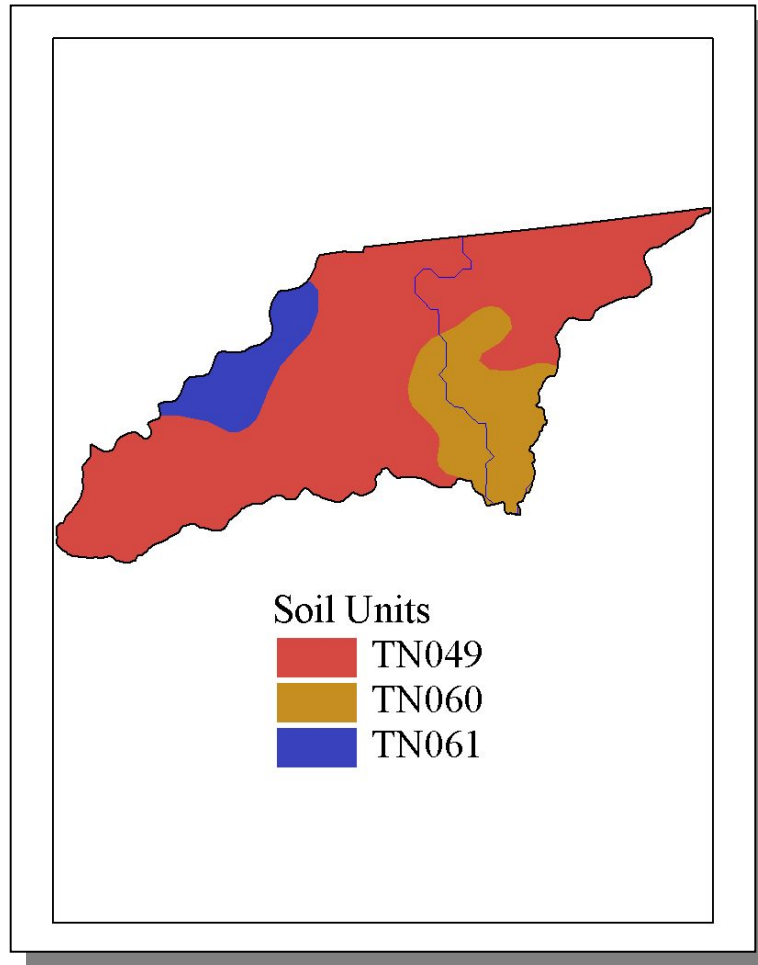


Figure 4-72. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060404.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN049	0.00	C	1.30	5.94	Silty Loam	0.34
TN060	5.00	C	1.30	5.32	Silty Loam	0.39
TN061	50.00	B	1.30	5.09	Silty Loam	0.42

Table 4-56. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060404. The definition of "Hydrologic Group" is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Montgomery	100,498	124,369	134,768	1.25	1,252	1,549	1,679	34.1
Robertson	41,494	51,533	54,433	2.02	836	1,039	1,097	31.2
Total	141,992	175,902	189,201		2,088	2,588	2,776	33.0

Table 4-57. Population Estimates in Subwatershed 051302060404.



Figure 4-73. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060404. More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.C.iv.a. Point Source Contributions.

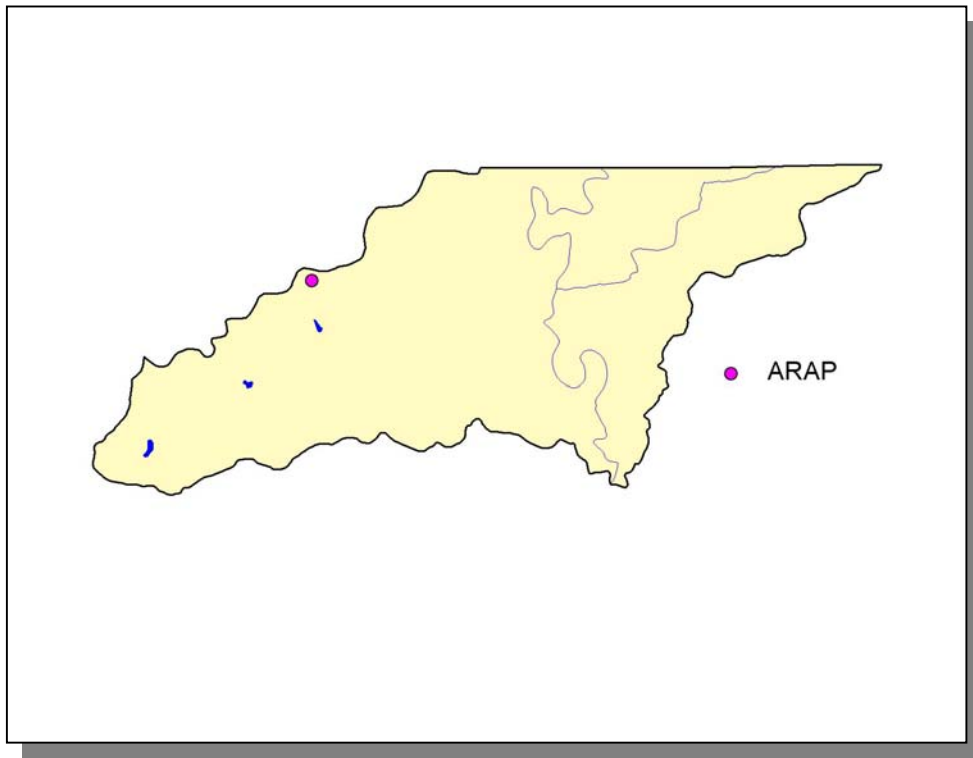


Figure 4-74. Location of Permits Issued in Subwatershed 051302060404. More information, including the names of facilities, is provided in Appendix IV.

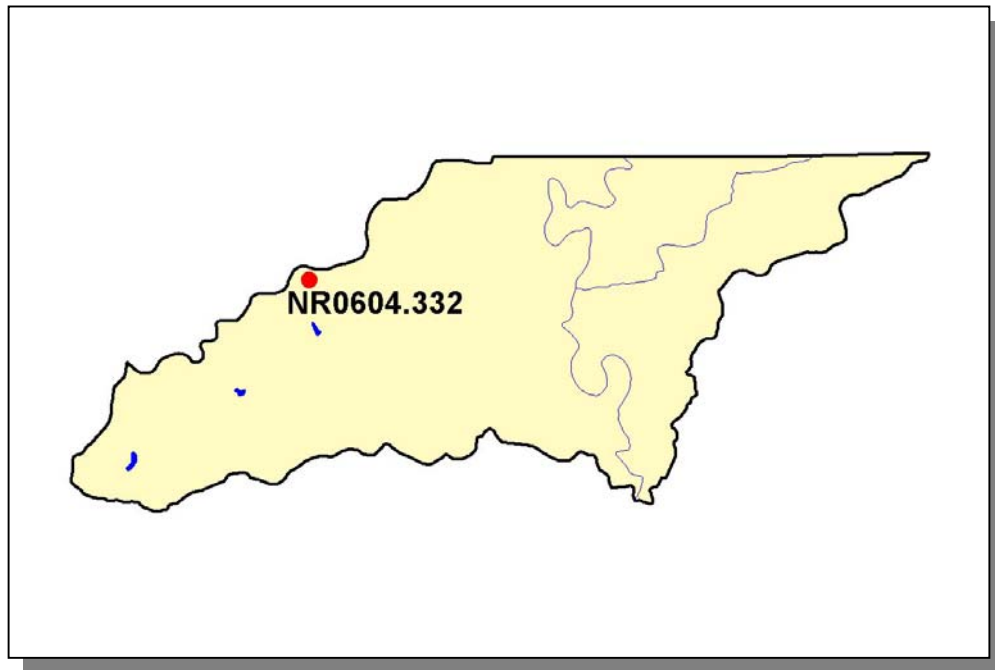


Figure 4-75. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060404. More information is provided in Appendix IV.

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4.2.C.iv.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
1,125	2,2271	107	<5	211	10

Table 4-58. Summary of Livestock Count Estimates in Subwatershed 051302060404. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Montgomery	16,051	30,959	760	913	1,408	107
Robertson	22,502	47,887	3,478	31	6,982	279

Table 4-59. Summary of Livestock Count Estimates in Montgomery and Robertson Counties. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Montgomery				
Robertson	53.0	53.0	2.2	9.7

Table 4-60. Forest Acreage and Annual Removal Rates (1987-1994) in Montgomery and Robertson Counties.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.58
Grass (Hayland)	0.34
Legumes, Grass (Hayland)	0.48
Legumes (Hayland)	0.73
Grass, Forbs, Legumes (Mixed Pasture)	0.47
Corn (Row Crops)	6.33
Soybeans (Row Crops)	7.67
Tobacco (Row Crops)	16.11
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	9.59
Conservation Reserve Program Lands	0.38
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.58

Table 4-61. Annual Estimated Total Soil Loss in Subwatershed 051302060404.

4.2.C.v. 051302060405 (Red River).

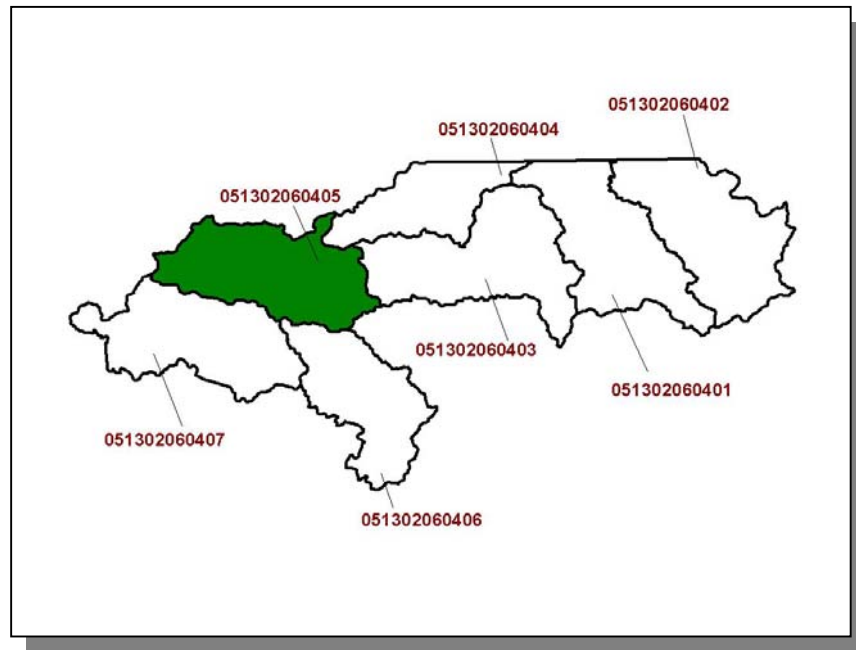


Figure 4-76. Location of Subwatershed 051302060405. All Red River HUC-12 subwatershed boundaries in Tennessee are shown for reference.

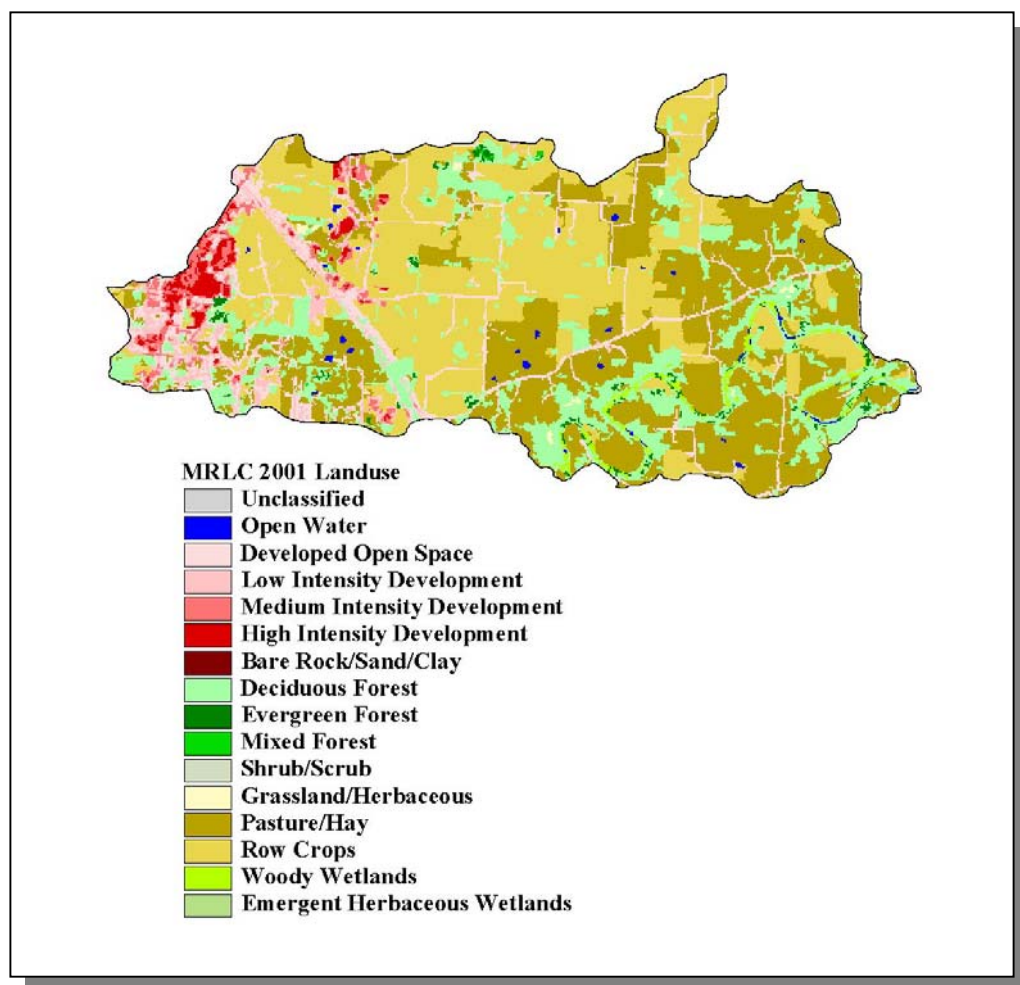


Figure 4-77. Illustration of Land Use Distribution in Subwatershed 051302060405.

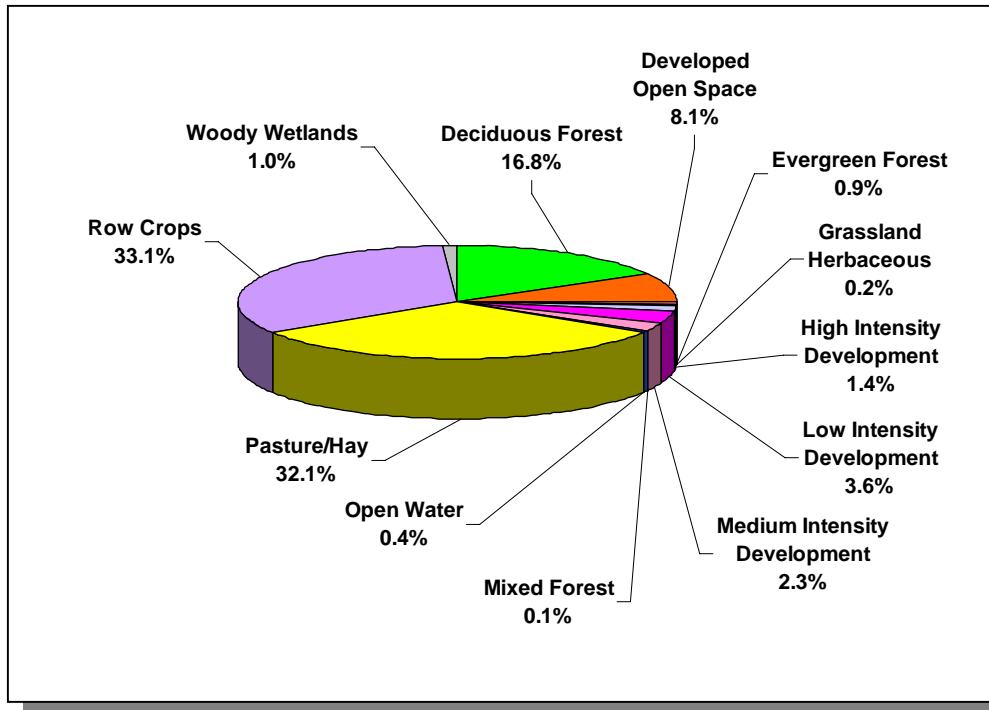


Figure 4-78. Land Use Distribution in Subwatershed 051302060405. More information is provided in Appendix IV.

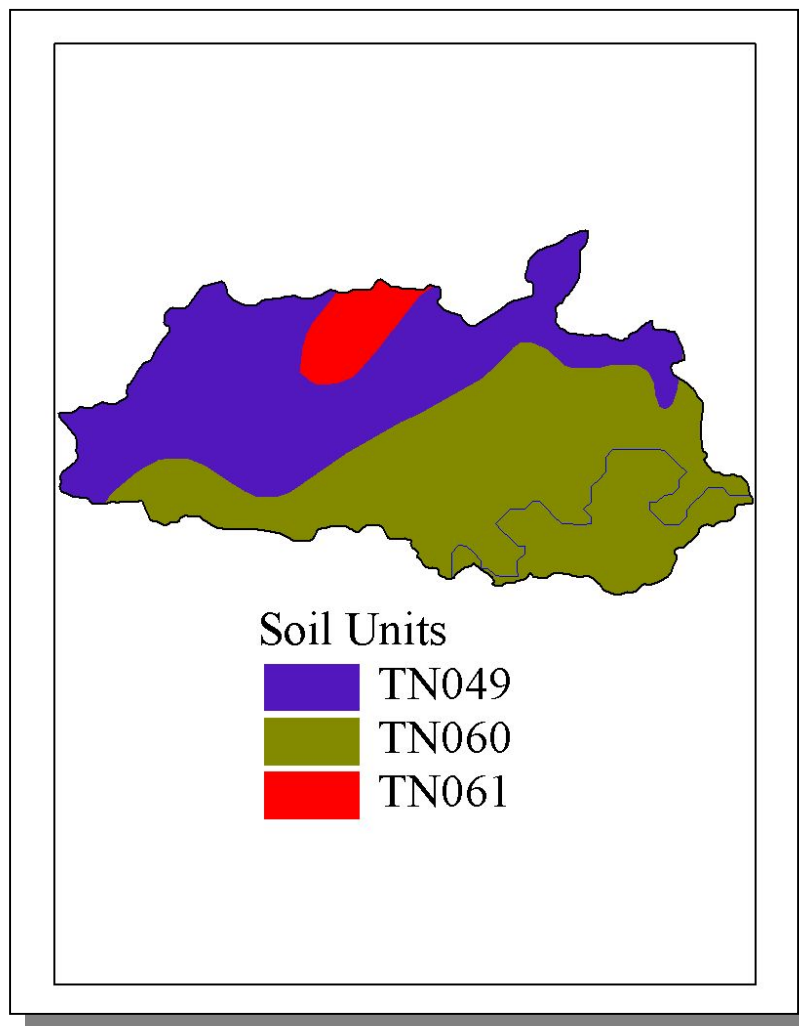


Figure 4-79. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060405.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN049	0.00	C	1.30	5.94	Silty Loam	0.34
TN060	5.00	C	1.30	5.32	Silty Loam	0.39
TN061	50.00	B	1.30	5.09	Silty Loam	0.42

Table 4-62. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060405. The definition of "Hydrologic Group" is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Montgomery	100,498	124,369	134,768	5.09	5,117	6,333	6,862	34.1

Table 4-63. Population Estimates in Subwatershed 051302060405.

Populated Place	County	Population	NUMBER OF HOUSING UNITS			
			Total	Public Sewer	Septic Tank	Other
Clarksville	Montgomery	75,494	27,642	23,610	3,956	76

Table 4-64. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060405.

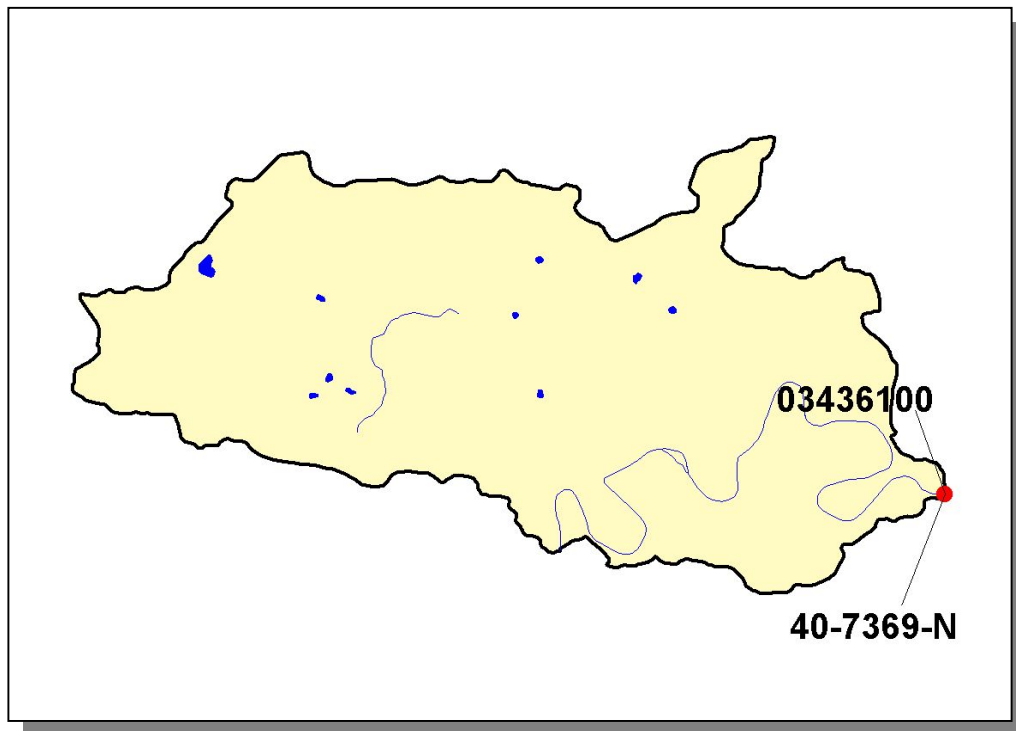


Figure 4-80. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060405. More information is provided in Appendix IV.

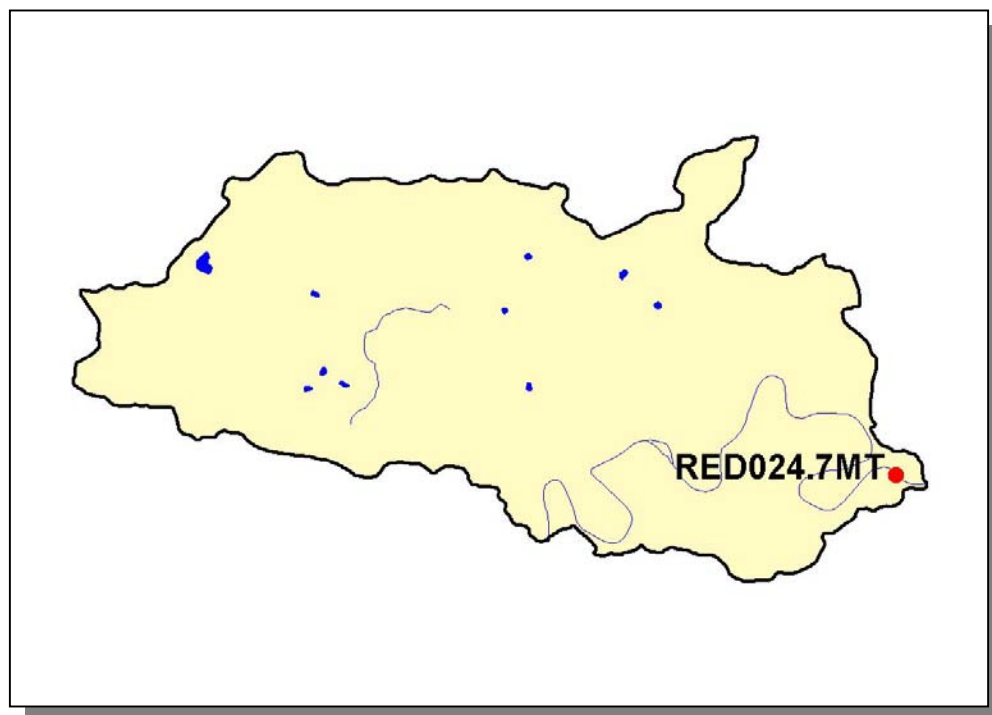


Figure 4-81. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060405. More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.C.v.a. Point Source Contributions.

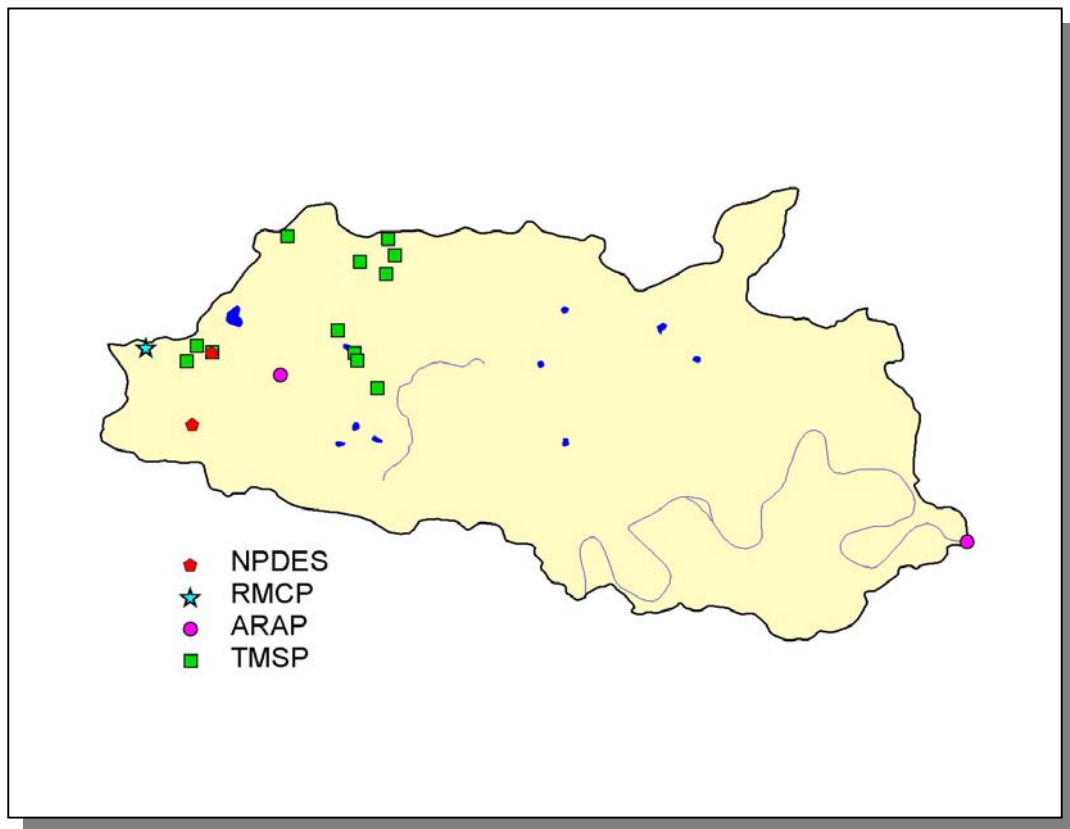


Figure 4-82. Location of Permits Issued in Subwatershed 051302060405. More information, including the names of facilities, is provided in Appendix IV.

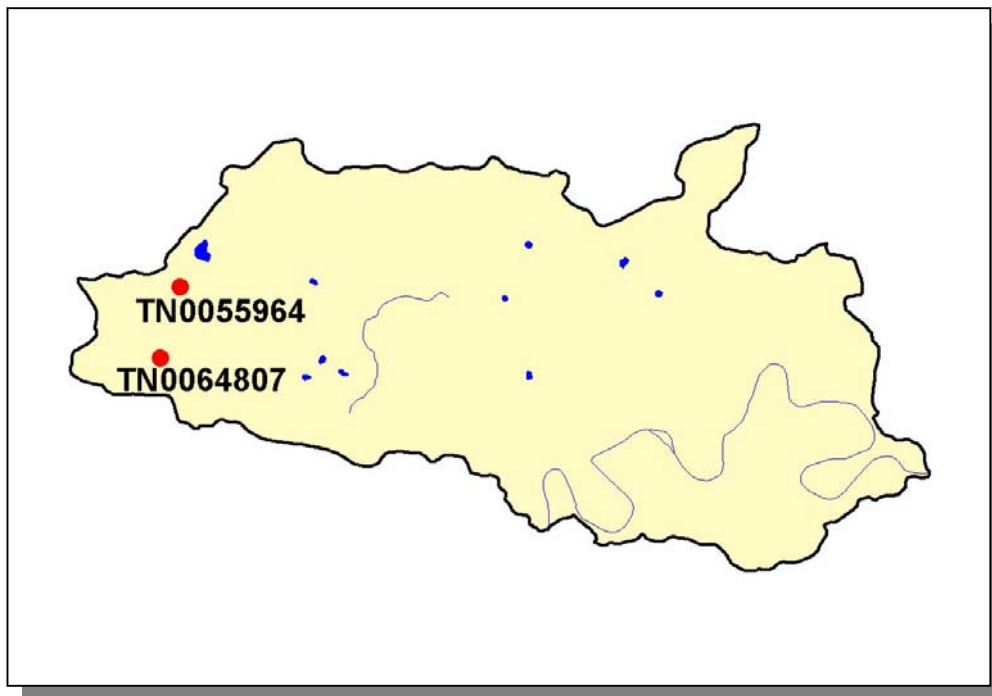


Figure 4-83. Location of Active NPDES Sites in Subwatershed 051302060405. More information, including the names of facilities, is provided in Appendix IV.

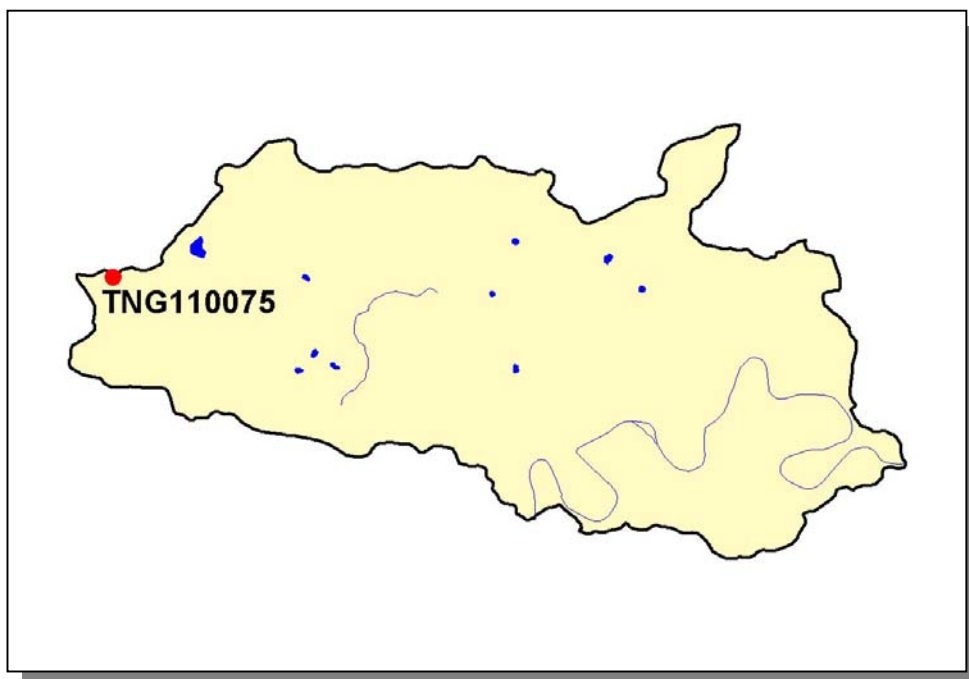


Figure 4-84. Location of Ready Mix Concrete Plants (RMCP) in Subwatershed 051302060405. More information is provided in Appendix IV.

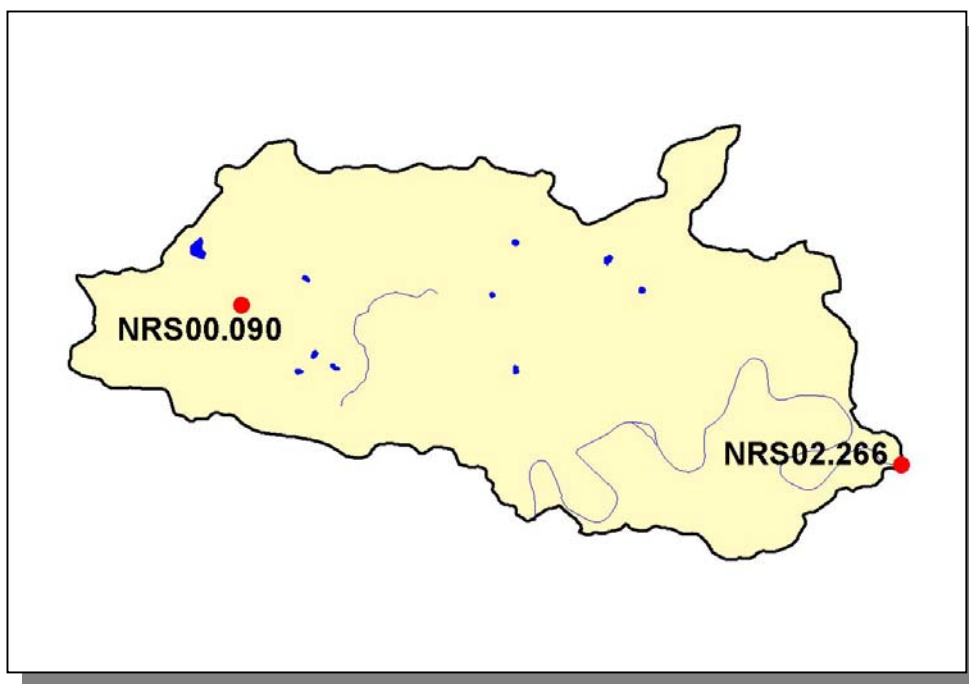


Figure 4-85. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060405. More information is provided in Appendix IV.

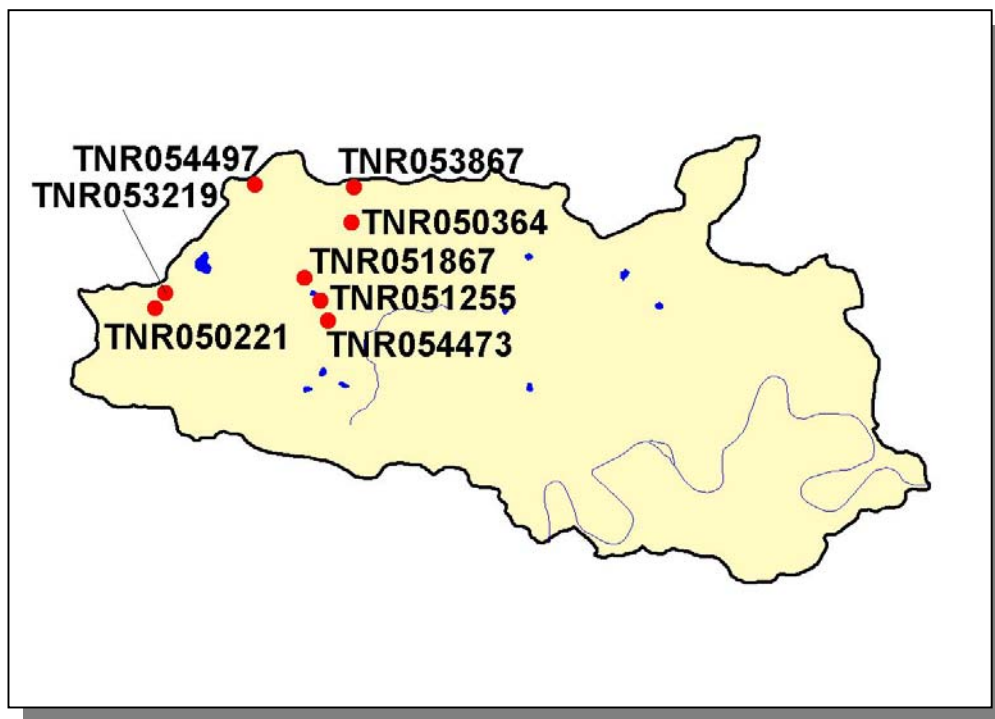


Figure 4-86. Location of TMSP Sites in Subwatershed 051302060405. More information, including the names of facilities, is provided in Appendix IV.

4.2.C.v.a.i. Dischargers to Water Bodies Listed on the 2004 303(d) List

There is one NPDES facility discharging to water bodies listed on the 2004 303(d) list in Subwatershed 051302060405:

- TN0055964 (Trane Company) discharges to an unnamed tributary to a sink hole and to a wet weather conveyance to Gibbs Creek

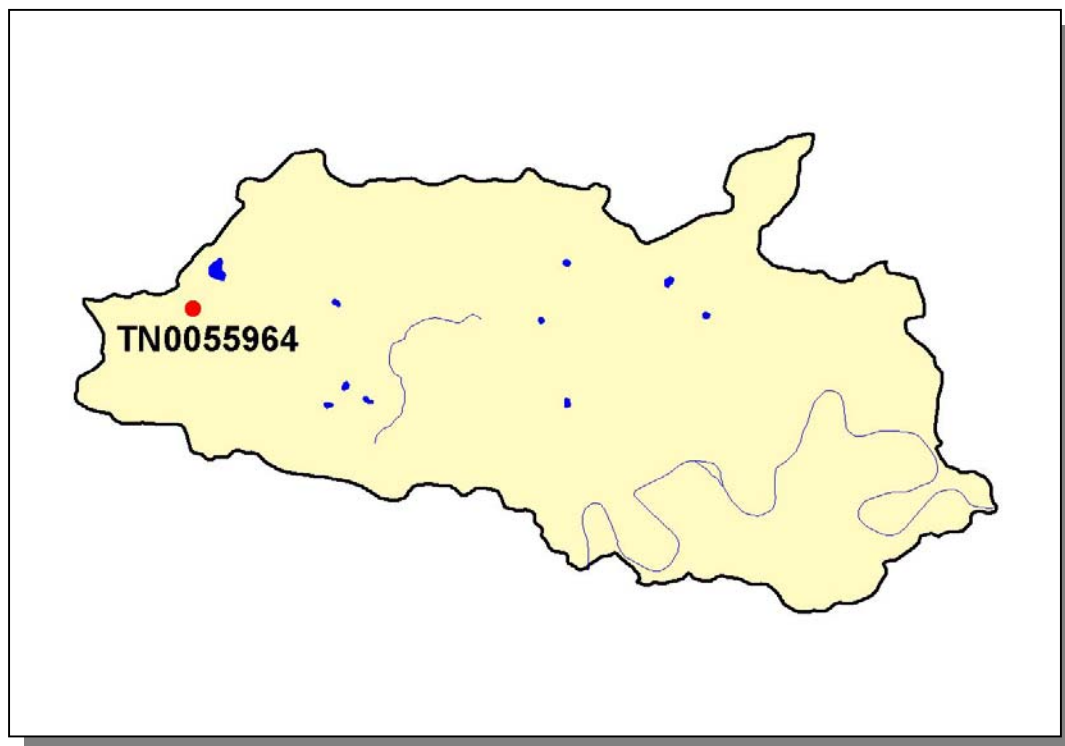


Figure 4-87. Location of NPDES Dischargers to Water Bodies Listed on the 2004 303(d) List in Subwatershed 051302060405. More information, including the names of facilities, is provided in Appendix IV.

PERMIT #	1Q10	3Q10	7Q10	3Q20	3Q5	QDESIGN
TN0055964			0.0		0.0	N/A

Table 4-65. Receiving Stream Flow Information for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060405. Data are in million gallons per day (MGD). N/A, Not Applicable. Data were obtained from the USGS publication Flow Duration and Low Flows of Tennessee Streams Through 1992 or from permit files.

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PERMIT #	OIL and GREASE	Fe	Cu	Zn	pH	FLOW
TN0055964	X	X	X	X	X	X

Table 4-66. Stormwater Monitoring Requirements for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060405. WET, Whole Effluent Toxicity; CBOD₅, Carbonaceous Biochemical Oxygen Demand (5-Day); Fe, Iron; Cu, Copper; TSS, Total Suspended Solids.

4.2.C.v.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
1,898	3,661	90	<5	166	13

Table 4-67. Summary of Livestock Count Estimates in Subwatershed 051302060405. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Montgomery	16,051	30,959	760	913	1,408	107

Table 4-68. Summary of Livestock Count Estimates in Montgomery County. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Montgomery				

Table 4-69. Forest Acreage and Annual Removal Rates (1987-1994) in Montgomery County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.45
Grass (Hayland)	0.29
Legumes, Grass (Hayland)	0.40
Grass, Forbs, Legumes (Mixed Pasture)	0.55
Corn (Row Crops)	8.04
Soybeans (Row Crops)	4.26
Tobacco (Row Crops)	22.25
Conservation Reserve Program Lands	0.41
Farmsteads and Ranch Headquarters	0.04

Table 4-70. Annual Estimated Total Soil Loss in Subwatershed 051302060405.

4.2.C.vi. 051302060406 (Passenger Creek).

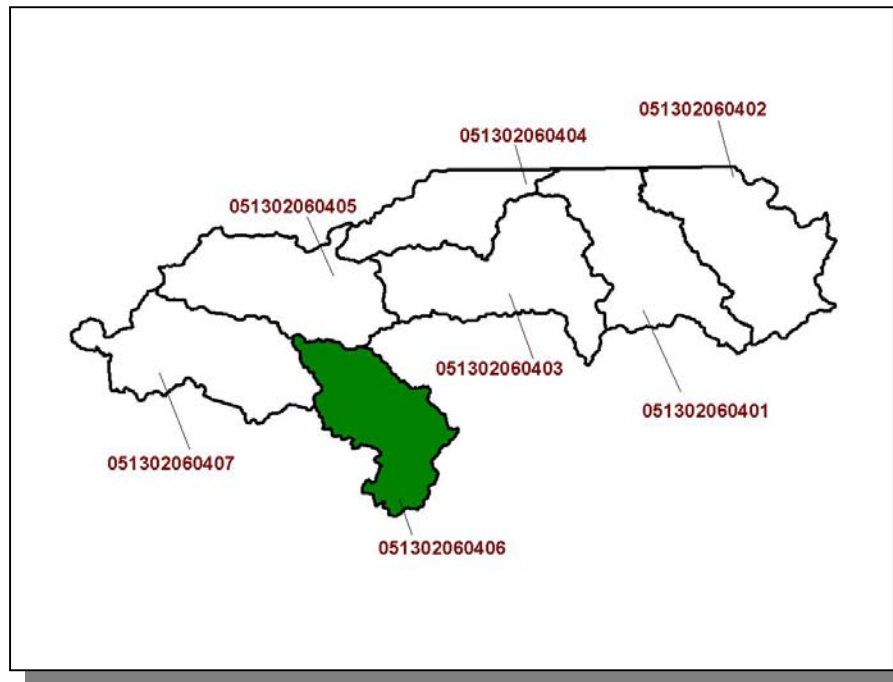


Figure 4-88. Location of Subwatershed 051302060406. All HUC-12 subwatershed boundaries are shown for reference.

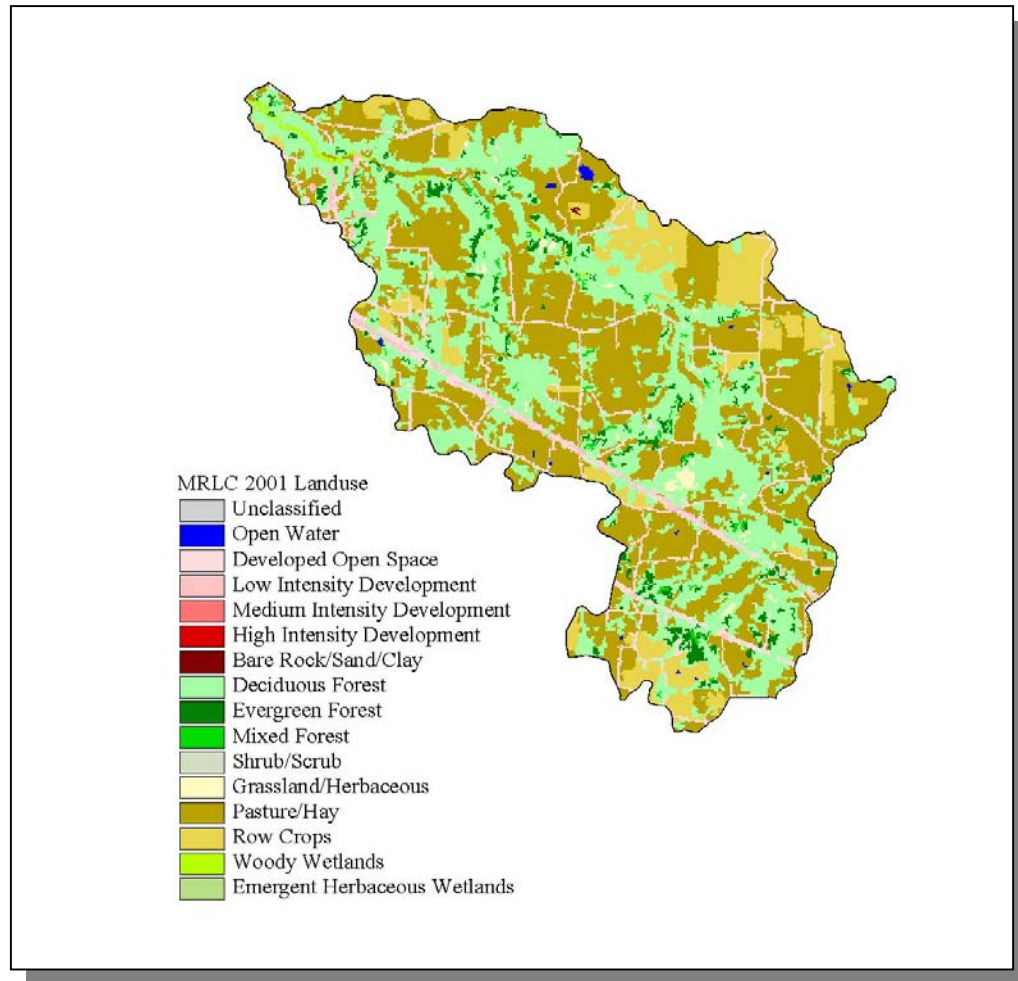


Figure 4-89. Illustration of Land Use Distribution in Subwatershed 051302060406.

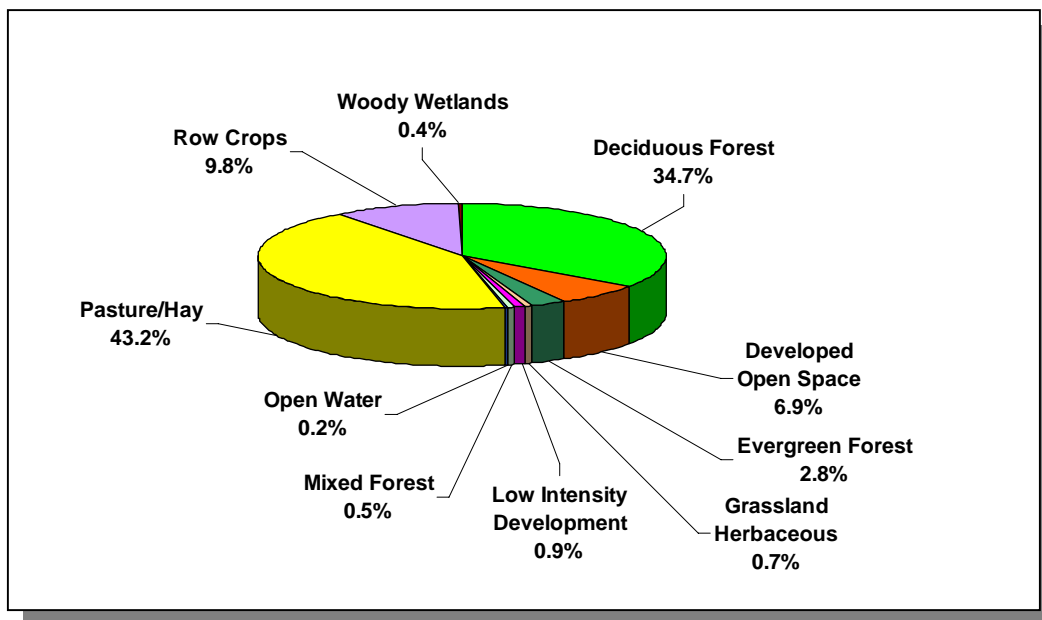


Figure 4-90. Land Use Distribution in Subwatershed 051302060406. More information is provided in Appendix IV.

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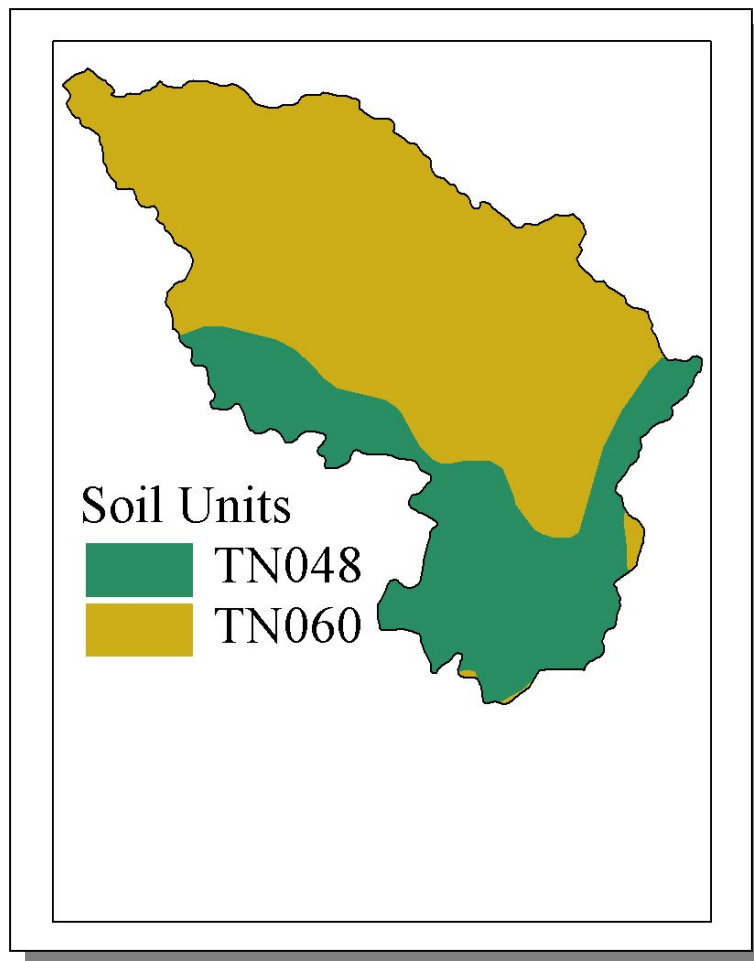


Figure 4-91. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060406.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN060	5.00	C	1.30	5.32	Silty Loam	0.39

Table 4-71. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060406. The definition of "Hydrologic Group" is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Cheatham	27,140	34,402	35,912	0.37	100	127	132	32.0
Montgomery	100,498	124,369	134,768	3.47	3,492	4,321	4,682	34.1
Robertson	41,494	51,533	54,433	0.37	152	189	200	31.6
Total	169,132	210,304	225,113		3,644	4,637	5,014	33.9

Table 4-72. Population Estimates in Subwatershed 051302060406.



Figure 4-92. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060406. More information is provided in Appendix IV.

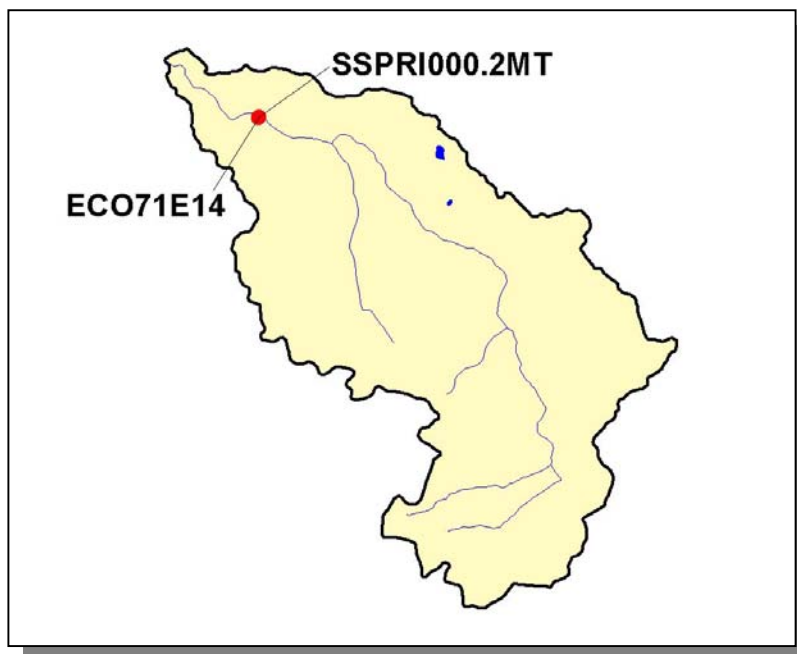


Figure 4-93. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060406. More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.C.vi.a. Point Source Contributions.

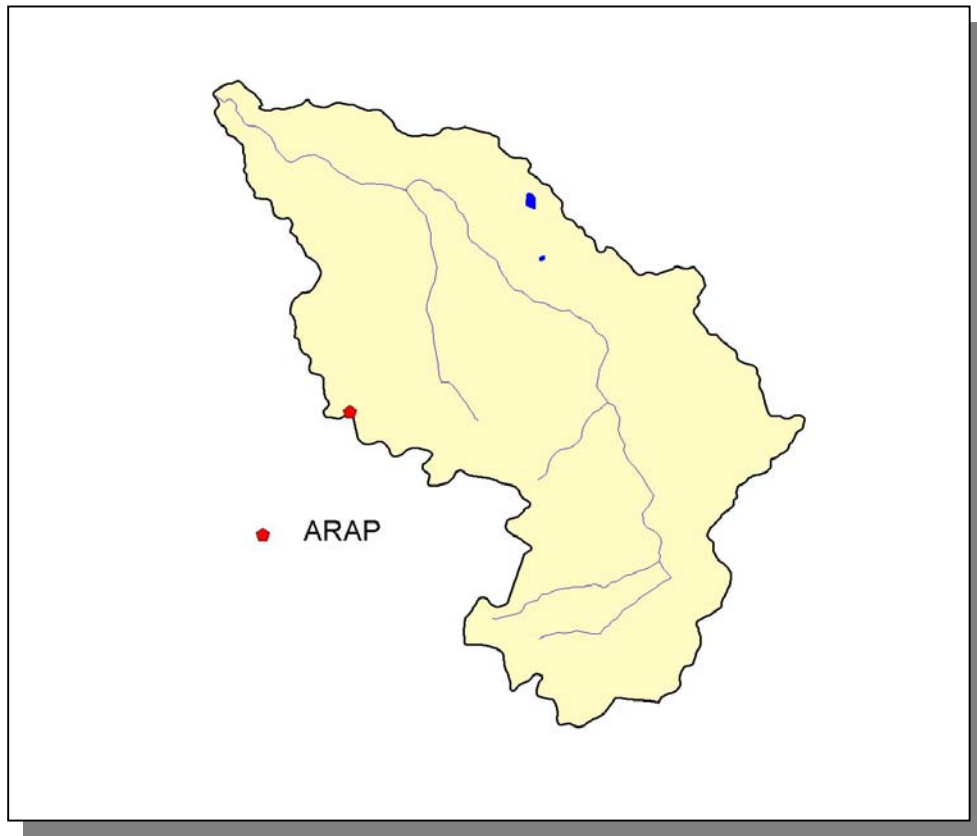


Figure 4-94. Location of Permits Issued in Subwatershed 051302060406. More information, including the names of facilities, is provided in Appendix IV.



Figure 4-95. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060406. More information is provided in Appendix IV.

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4.2.C.vi.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
1,225	2,633	69	<5	156	9

Table 4-73. Summary of Livestock Count Estimates in Subwatershed 051302060406. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Cheatham	0	11,429	0	121	1,183	0
Montgomery	16,051	30,959	760	913	1,408	107
Robertson	22,502	47,887	3,478	31	6,982	279

Table 4-74. Summary of Livestock Count Estimates in Cheatham, Montgomery, and Robertson Counties. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Cheatham	118.2	118.2	2.3	8.4
Montgomery				
Robertson	53.0	53.0	2.2	9.7

Table 4-75. Forest Acreage and Annual Removal Rates (1987-1994) in Cheatham, Montgomery, and Robertson Counties.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.48
Grass (Hayland)	0.30
Legumes, Grass (Hayland)	0.41
Legumes (Hayland)	0.60
Grass, Forbs, Legumes (Mixed Pasture)	0.55
Corn (Row Crops)	7.83
Soybeans (Row Crops)	5.00
Tobacco (Row Crops)	21.35
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	6.11
Conservation Reserve Program Lands	0.41
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.12

Table 4-76. Annual Estimated Total Soil Loss in Subwatershed 051302060406.

4.2.C.vii. 051302060407 (Red River).

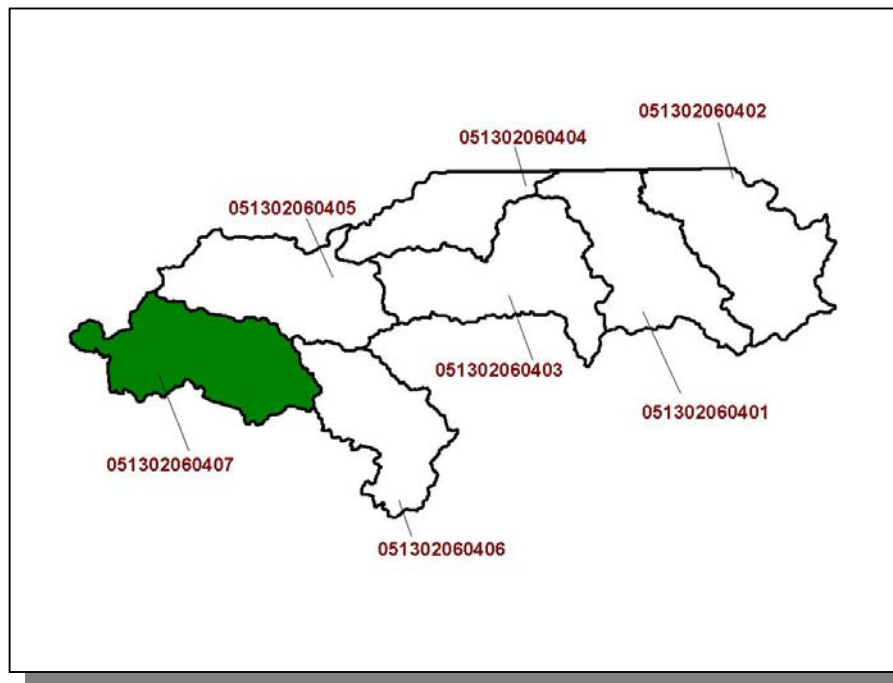


Figure 4-96. Location of Subwatershed 051302060407. All Red River HUC-12 subwatershed boundaries in Tennessee are shown for reference.

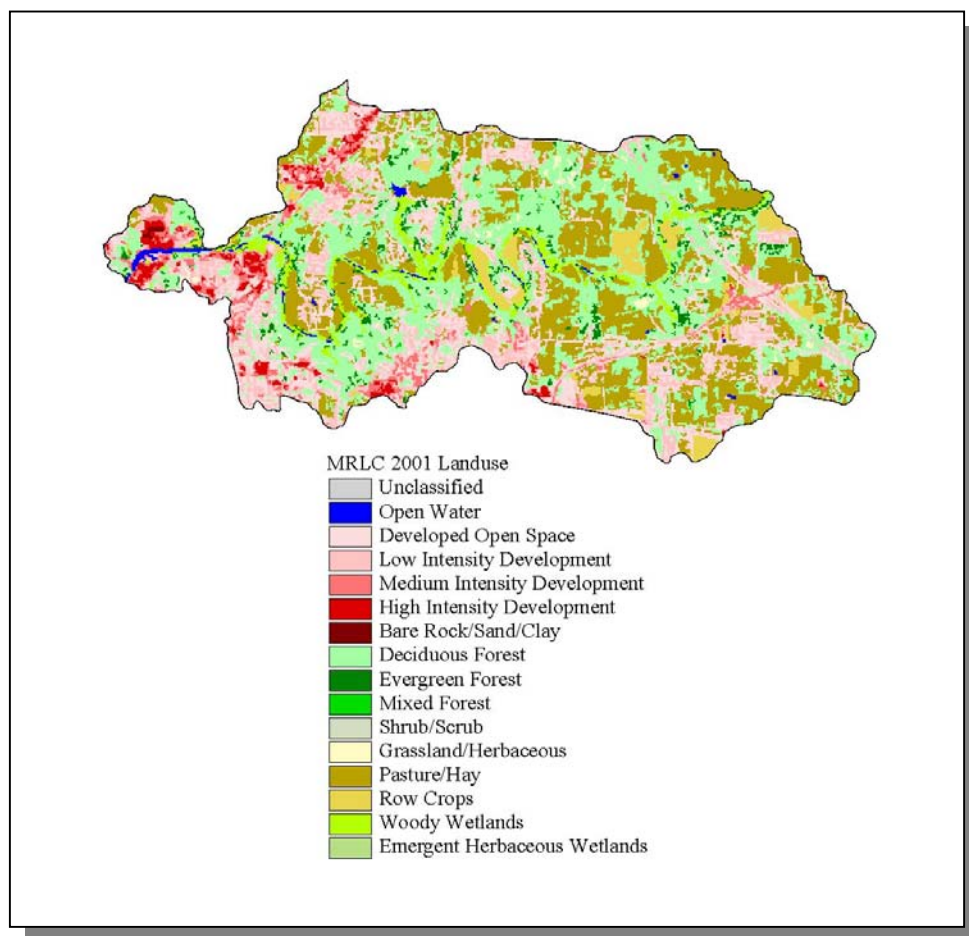


Figure 4-97. Illustration of Land Use Distribution in Subwatershed 051302060407.

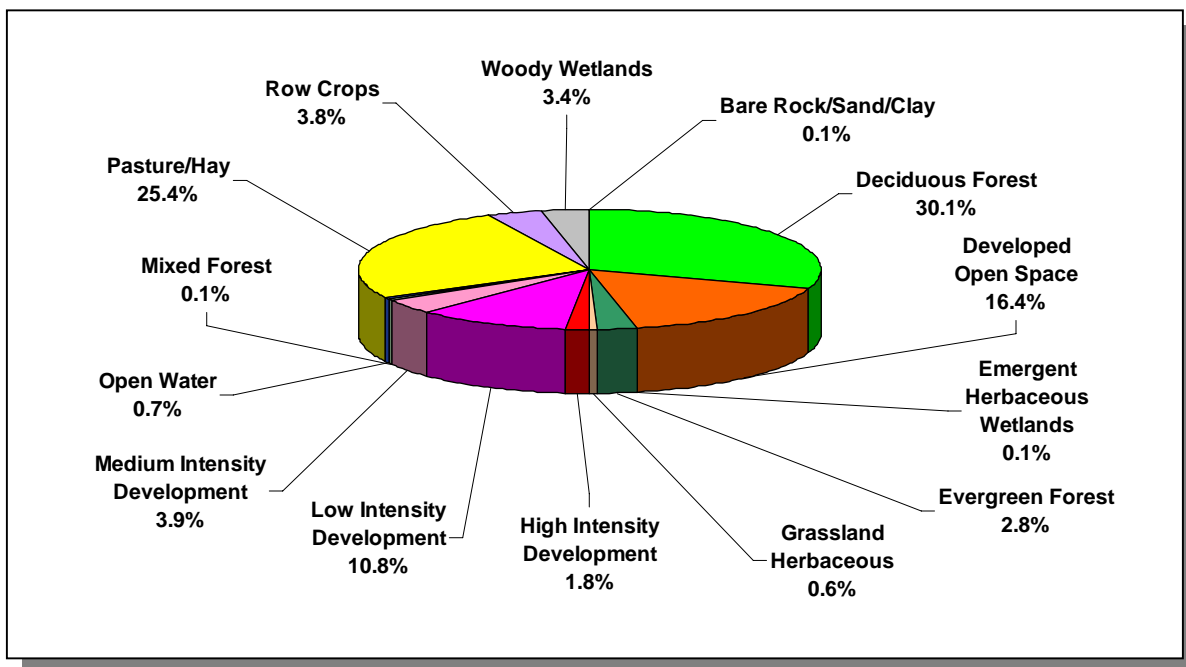


Figure 4-98. Land Use Distribution in Subwatershed 051302060407. More information is provided in Appendix IV.

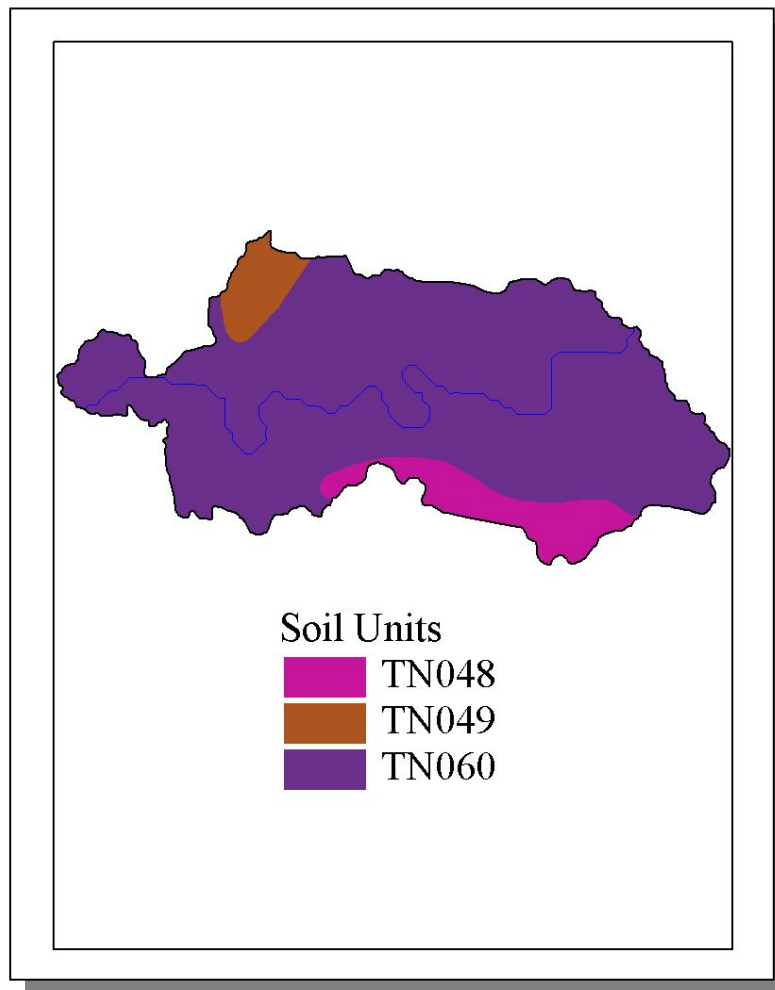


Figure 4-99. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060407.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN049	0.00	C	1.30	5.94	Silty Loam	0.34
TN060	5.00	C	1.30	5.32	Silty Loam	0.39

Table 4-77. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060407. The definition of "Hydrologic Group" is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Montgomery	100,498	124,369	134,768	5.04	5,067	6,271	6,795	34.1

Table 4-78. Population Estimates in Subwatershed 051302060407.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Clarksville	Montgomery	75,494	27,642	23,610	3,956	76

Table 4-79. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060407.

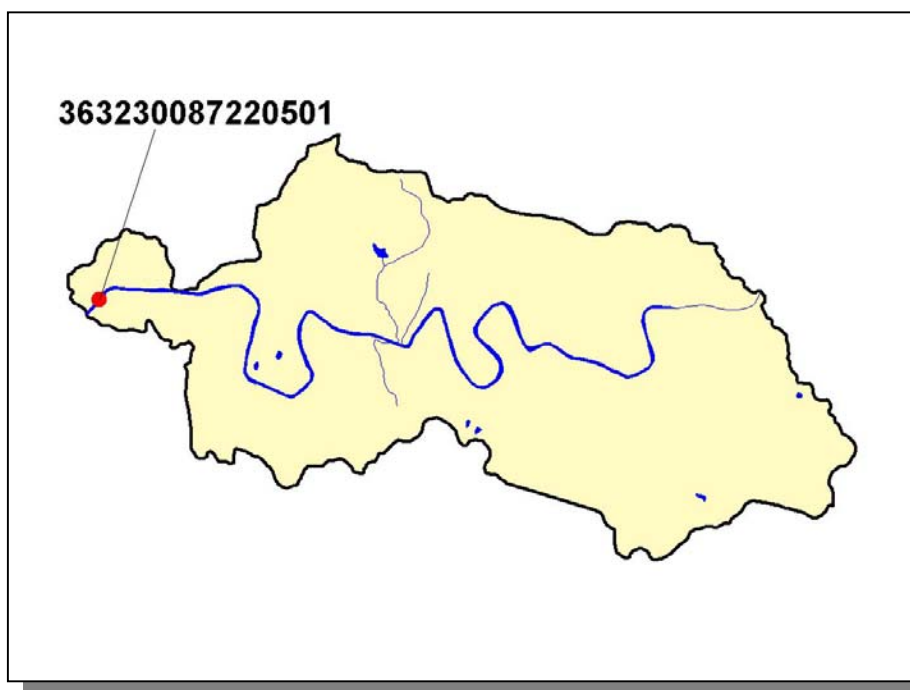


Figure 4-100. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060407. More information is provided in Appendix IV.

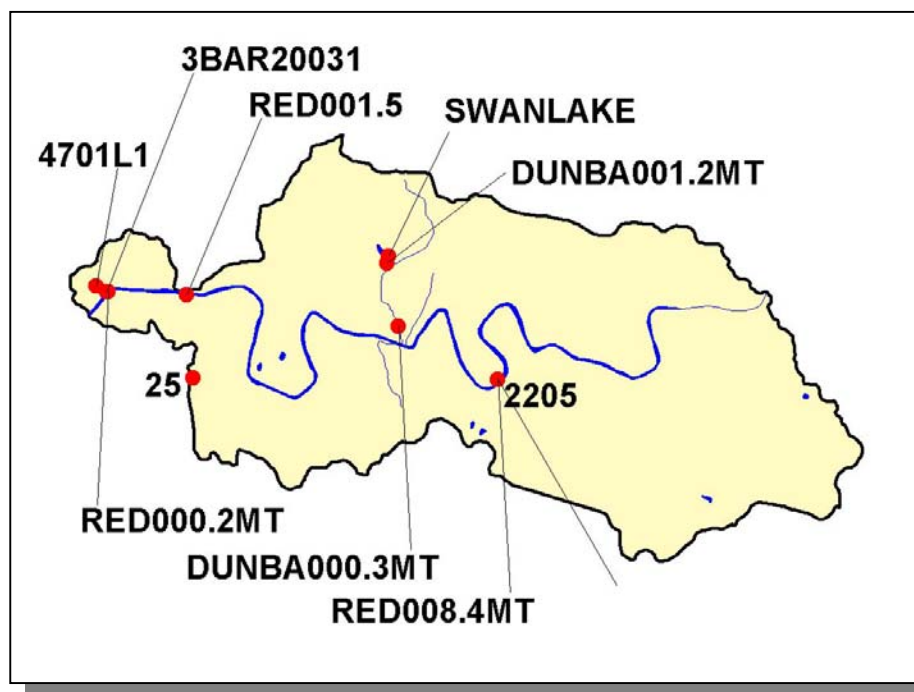


Figure 4-101. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060407. More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.C.vii.a. Point Source Contributions.

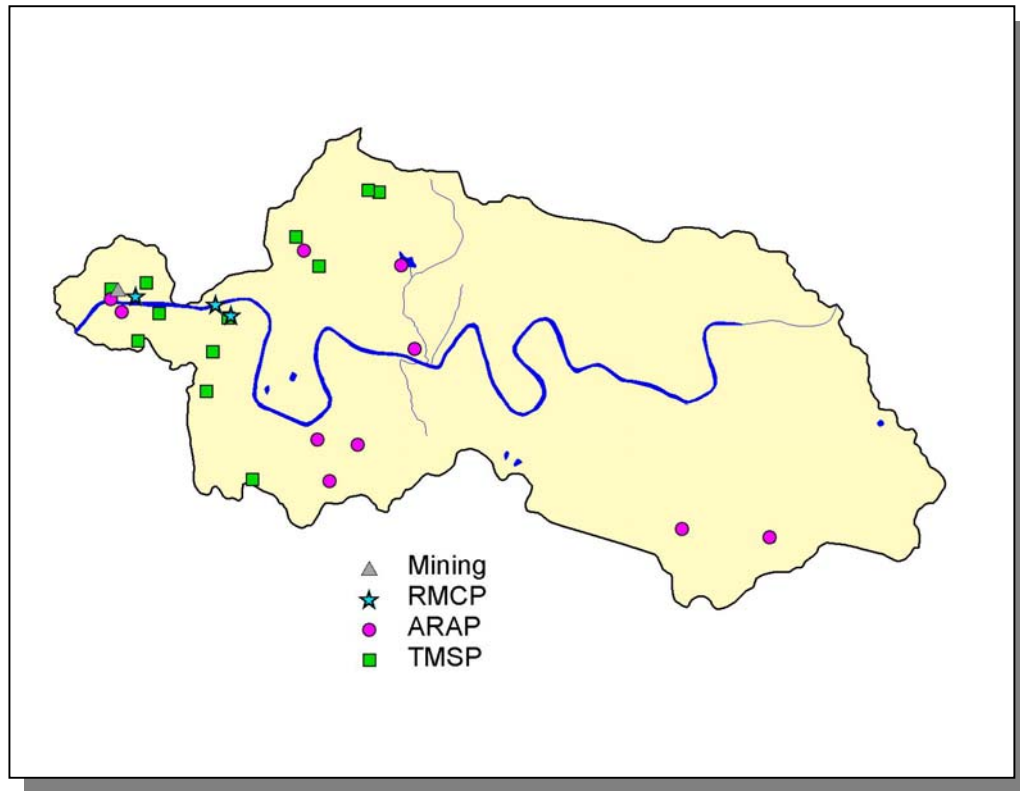


Figure 4-102. Location of Permits Issued in Subwatershed 051302060407. More information, including the names of facilities, is provided in Appendix IV.

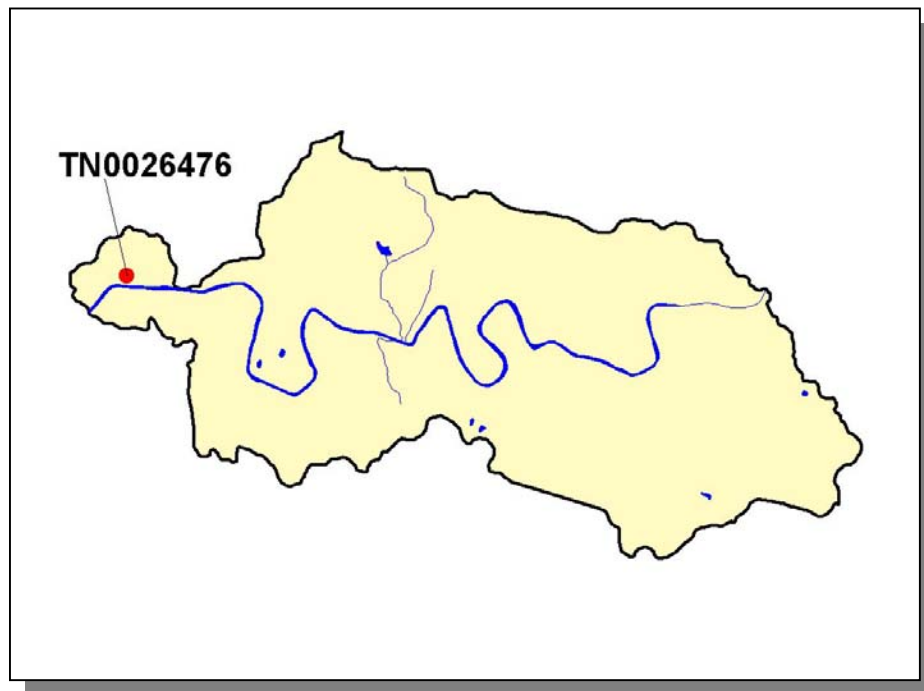


Figure 4-103. Location of Active Mining Sites in Subwatershed 051302060407. More information, including the names of mining operations, is provided in Appendix IV.

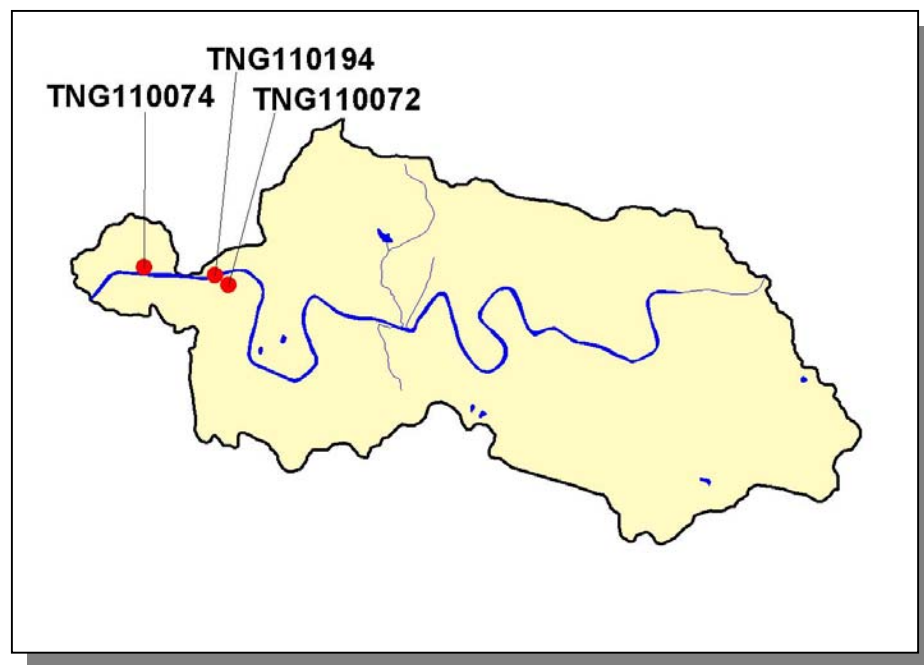


Figure 4-104. Location of Ready Mix Concrete Plants (RMCP) in Subwatershed 051302060407. More information is provided in Appendix IV.

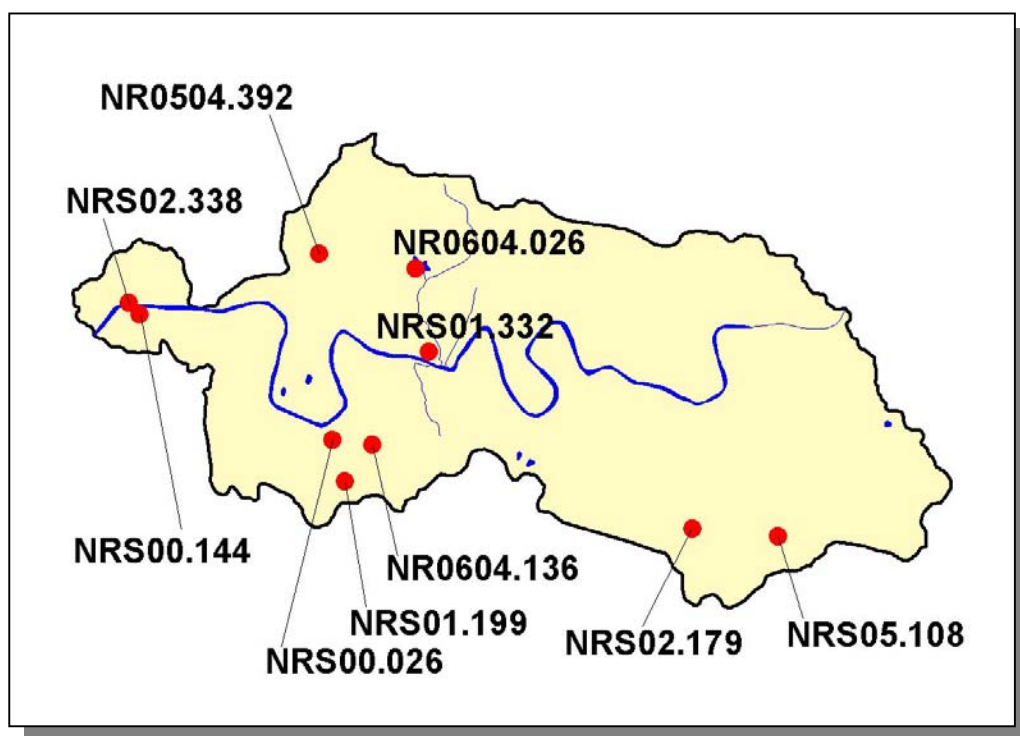


Figure 4-105. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060407. More information is provided in Appendix IV.

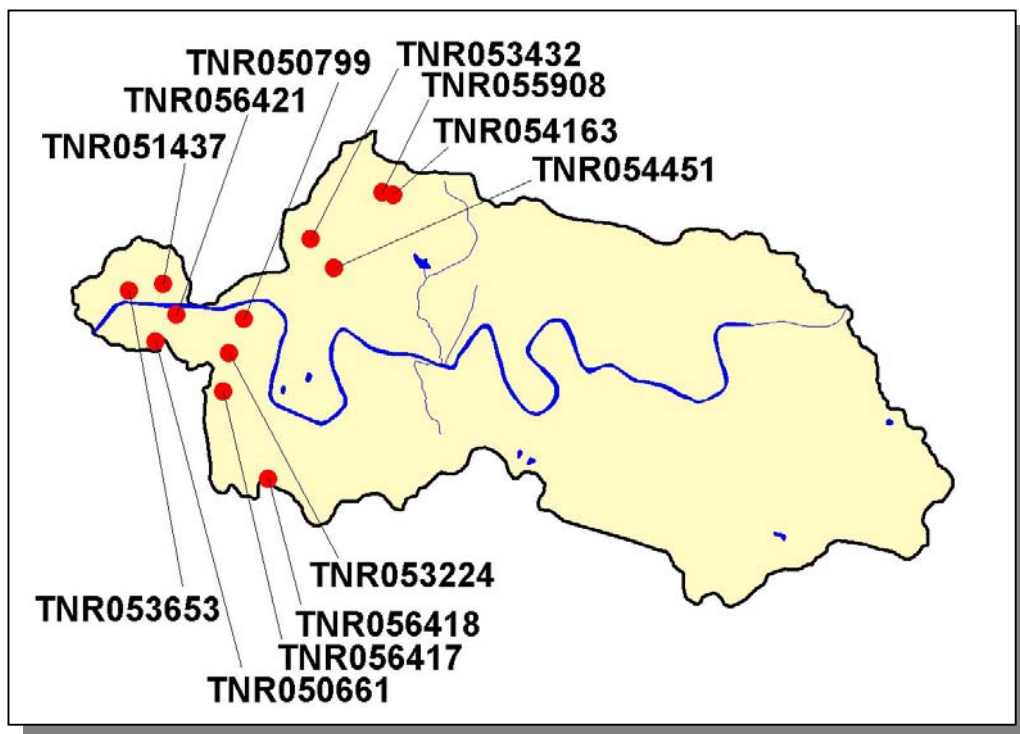


Figure 4-106. Location of TMSP Sites in Subwatershed 051302060407. More information, including the names of facilities, is provided in Appendix IV.

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4.2.C.vii.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
873	1,683	41	<5	77	6

Table 4-80. Summary of Livestock Count Estimates in Subwatershed 051302060407. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Montgomery	16,051	30,959	760	913	1,408	107

Table 4-81. Summary of Livestock Count Estimates in Montgomery County. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Montgomery				

Table 4-82. Forest Acreage and Annual Removal Rates (1987-1994) in Montgomery County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.45
Grass (Hayland)	0.29
Legumes, Grass (Hayland)	0.40
Grass, Forbs, Legumes (Mixed Pasture)	0.55
Corn (Row Crops)	8.04
Soybeans (Row Crops)	4.26
Tobacco (Row Crops)	22.25
Conservation Reserve Program Lands	0.41
Farmsteads and Ranch Headquarters	0.04

Table 4-83. Annual Estimated Total Soil Loss in Subwatershed 051302060407.

4.2.D. 0513020605.

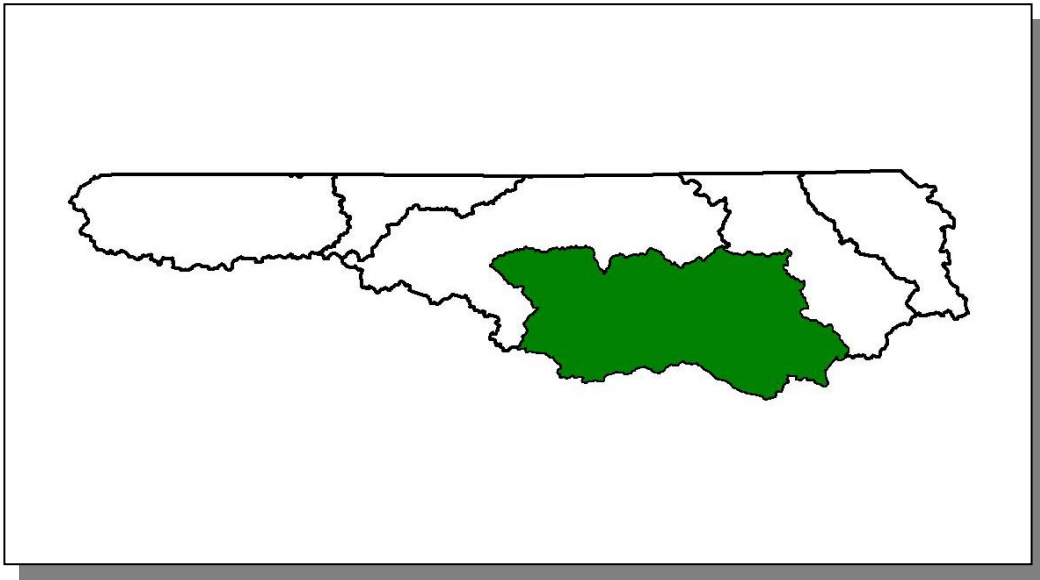


Figure 4-107. Location of Subwatershed 0513020605. All Red River HUC-10 subwatershed boundaries in Tennessee are shown for reference.

4.2.D.i. 051302060501 (Sulphur Fork Creek).

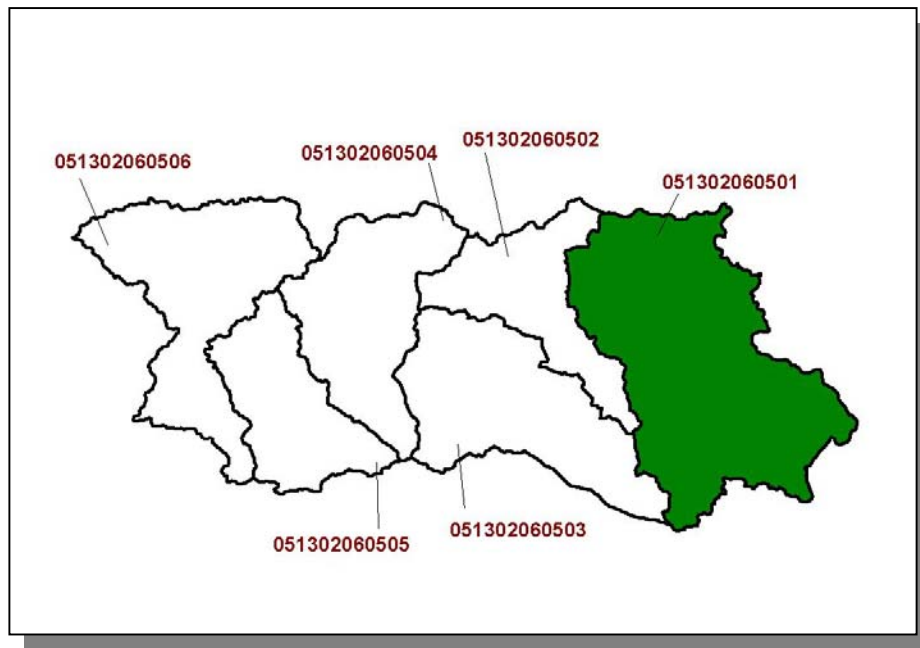


Figure 4-108. Location of Subwatershed 051302060501. All HUC-12 subwatershed boundaries are shown for reference.

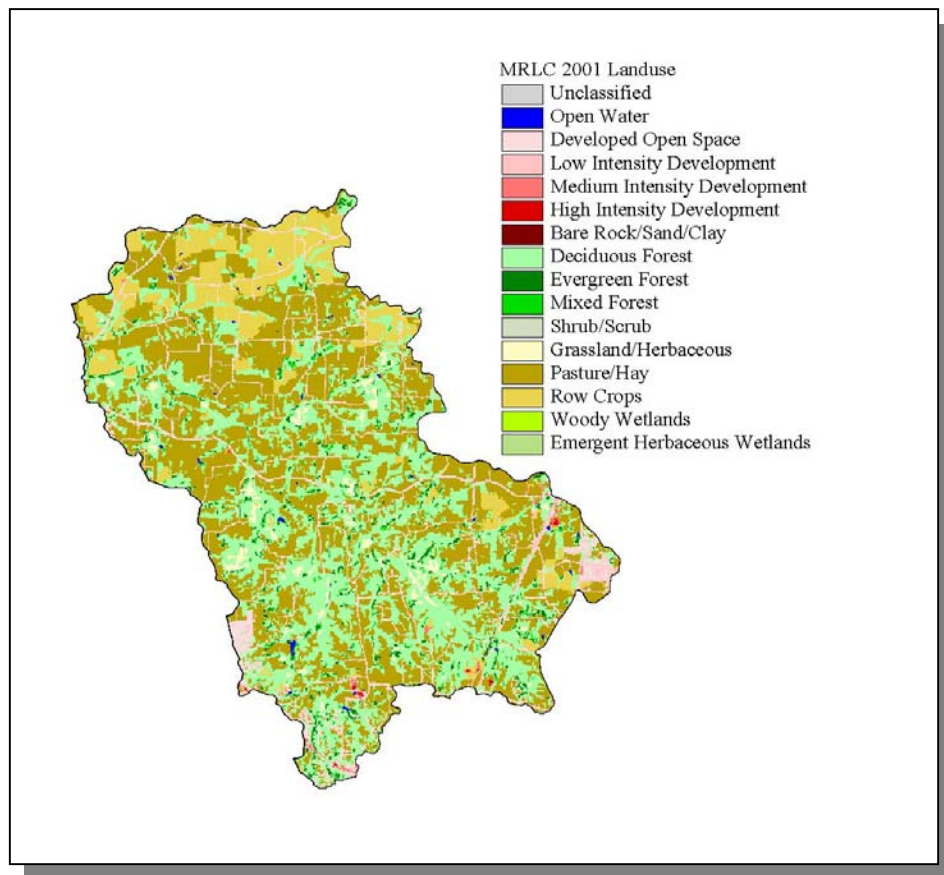


Figure 4-109. Illustration of Land Use Distribution in Subwatershed 051302060501.

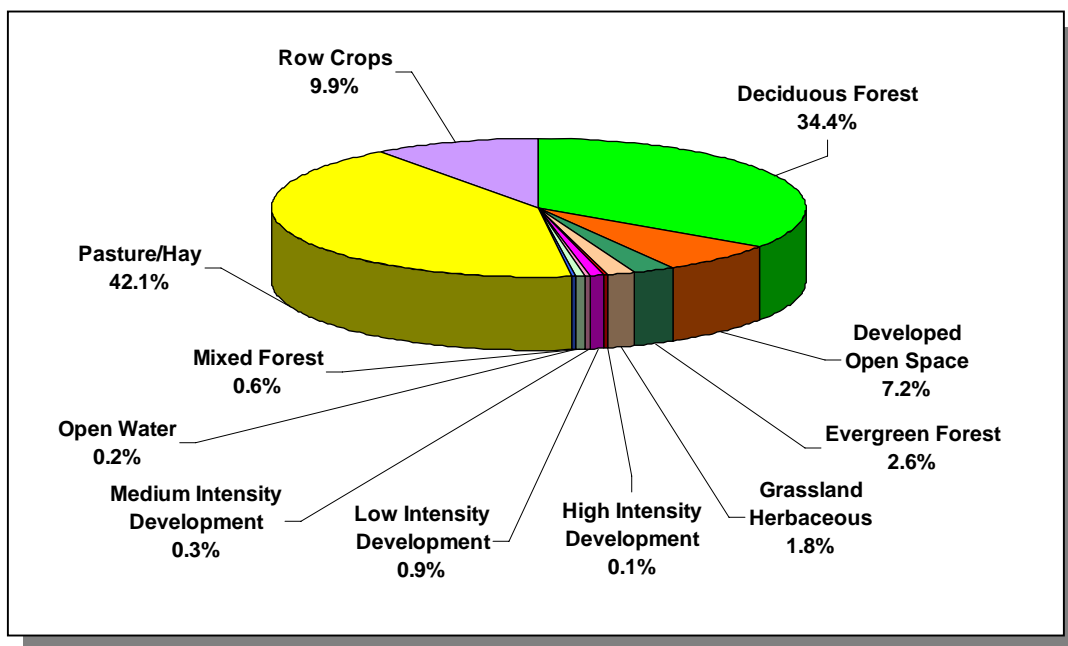


Figure 4-110. Land Use Distribution in Subwatershed 051302060501. More information is provided in Appendix IV.

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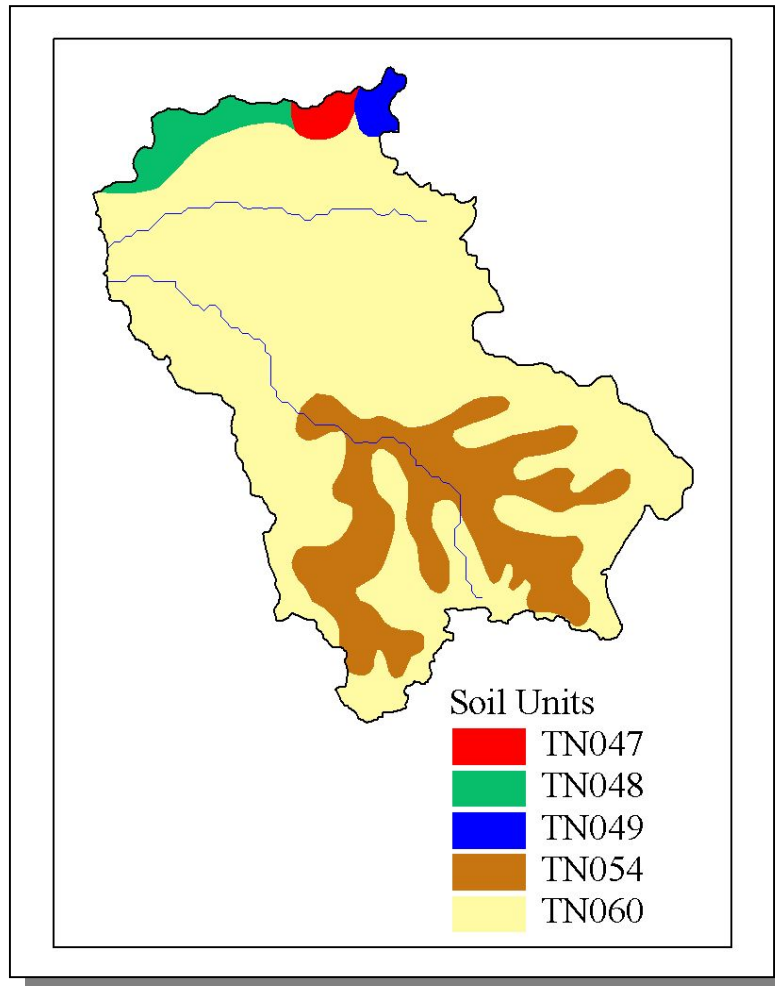


Figure 4-111. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060501.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN047	21.00	C	1.62	5.73	Silty Loam	0.37
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN049	0.00	C	1.30	5.94	Silty Loam	0.34
TN054	0.00	B	3.04	4.84	Loam	0.32
TN060	5.00	C	1.30	5.32	Silty Loam	0.39

Table 4-84. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060501. The definition of "Hydrologic Group" is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Robertson	41,494	51,533	54,433	12.43	5,156	6,403	6,764	31.2
Sumner	103,281	121,936	130,449	0.45	468	553	591	26.3
Total	144,775	173,469	184,882		5,624	6,956	7,355	30.8

Table 4-85. Population Estimates in Subwatershed 051302060501.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Greenbrier	Robertson	2,873	1,111	1,106	86	9
Millersville	Sumner	2,544	1,033	849	180	4
Nashville	Davidson	488,518	219,521	203,640	15,576	305
Springfield	Robertson	11,227	4,530	4,436	94	0
White House	Robertson	3,025	1,130	991	136	3
Total		508,187	227,325	211,022	16,072	321

Table 4-86. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060501.

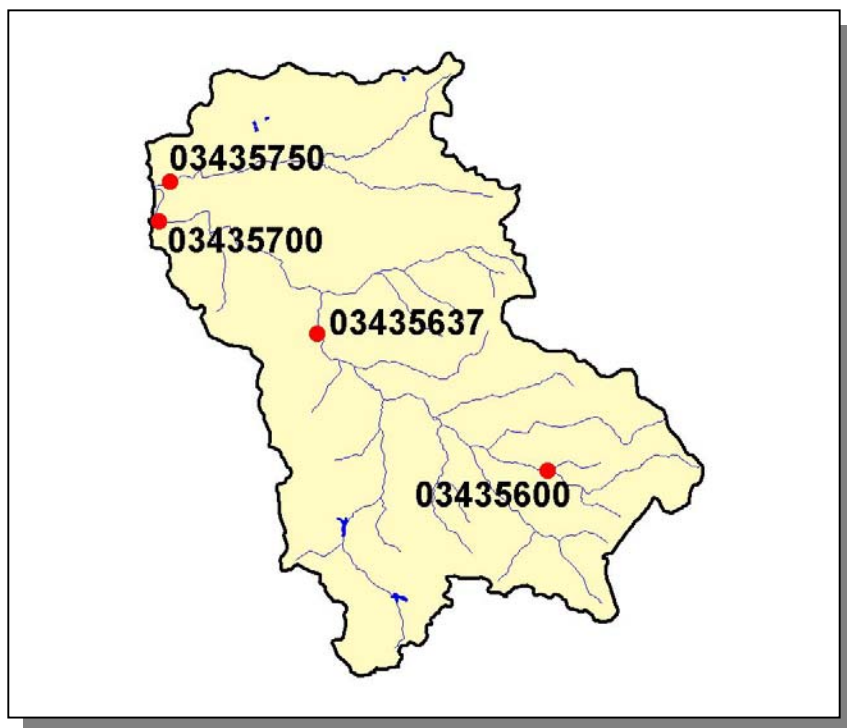


Figure 4-112. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060501. More information is provided in Appendix IV.

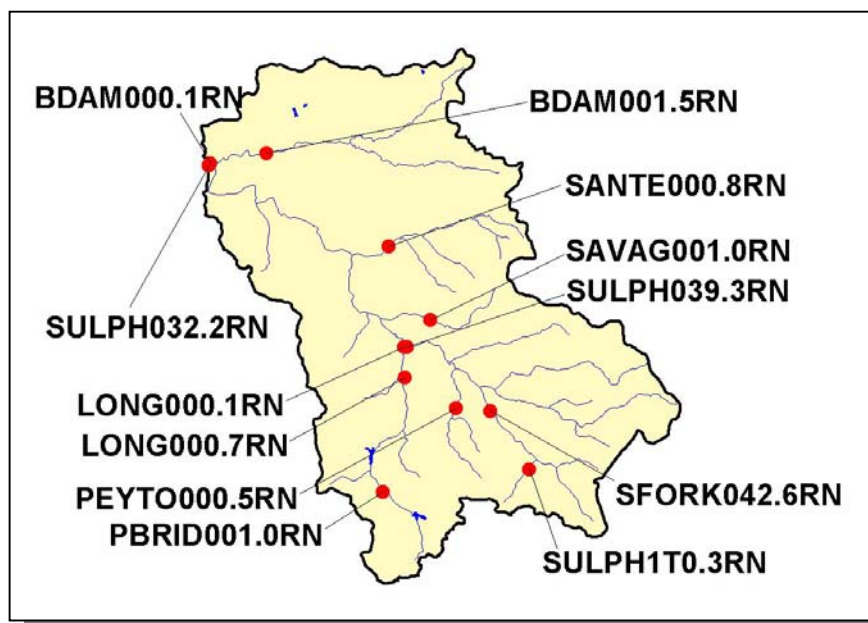


Figure 4-113. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060501. More information, including site names and locations and stations located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.D.i.a. Point Source Contributions.

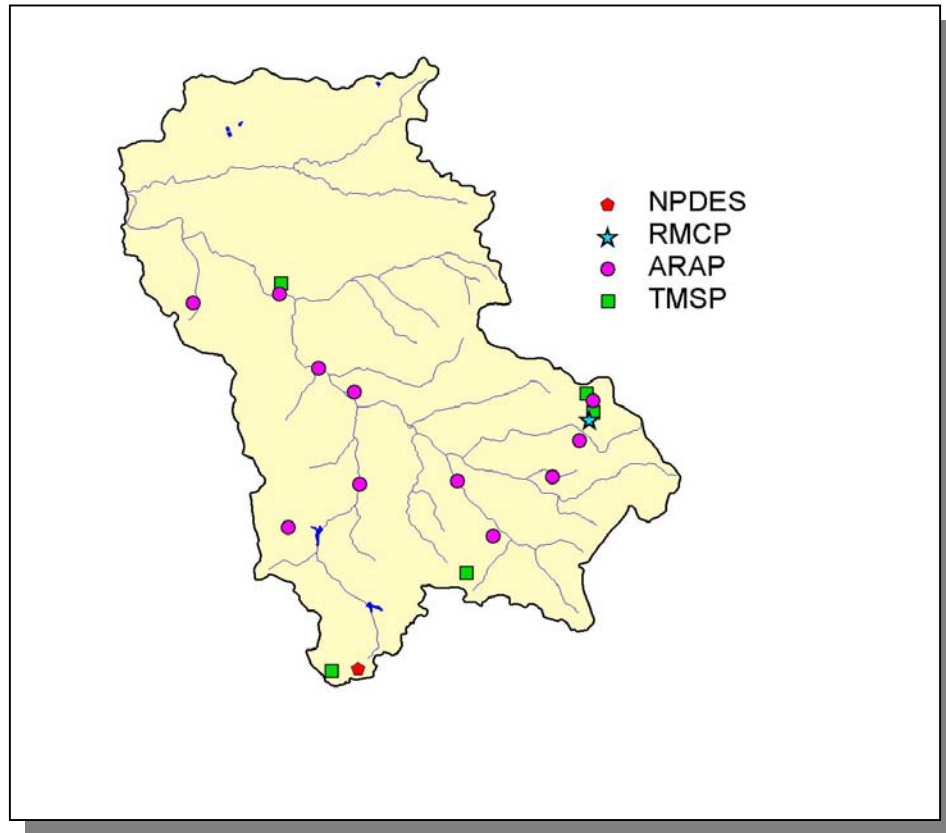


Figure 4-114. Location of Permits Issued in Subwatershed 051302060501. More information, including the names of facilities, is provided in Appendix IV.



Figure 4-115. Location of Active NPDES Sites in Subwatershed 051302060501. More information, including the names of facilities, is provided in Appendix IV.



Figure 4-116. Location of Ready Mix Concrete Plants (RMCP) in Subwatershed 051302060501. More information is provided in Appendix IV.

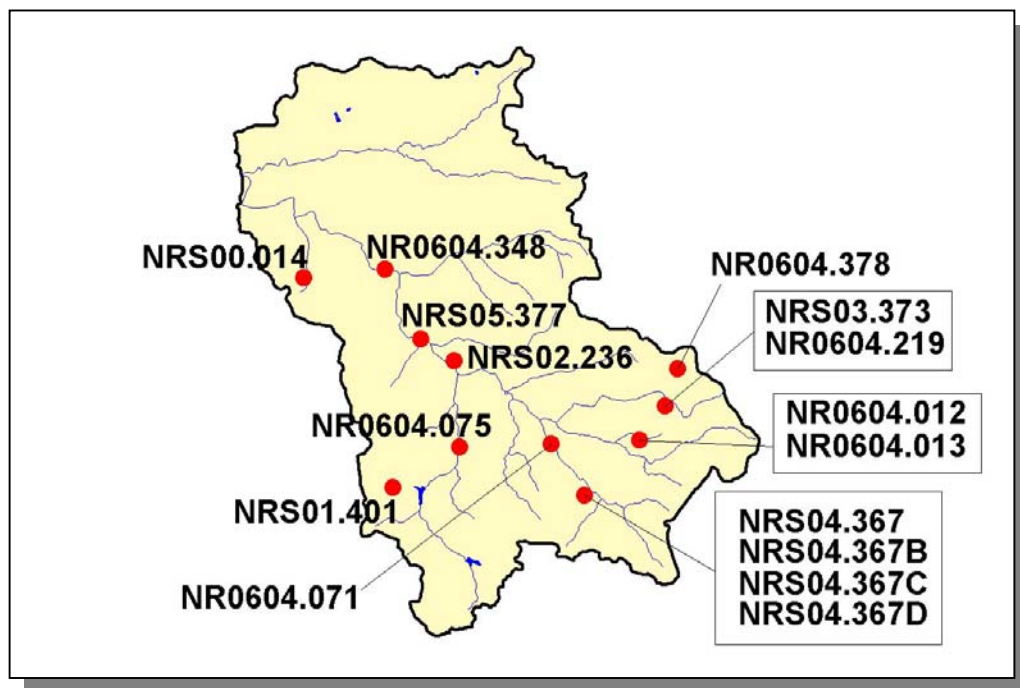


Figure 4-117. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060501. More information is provided in Appendix IV.

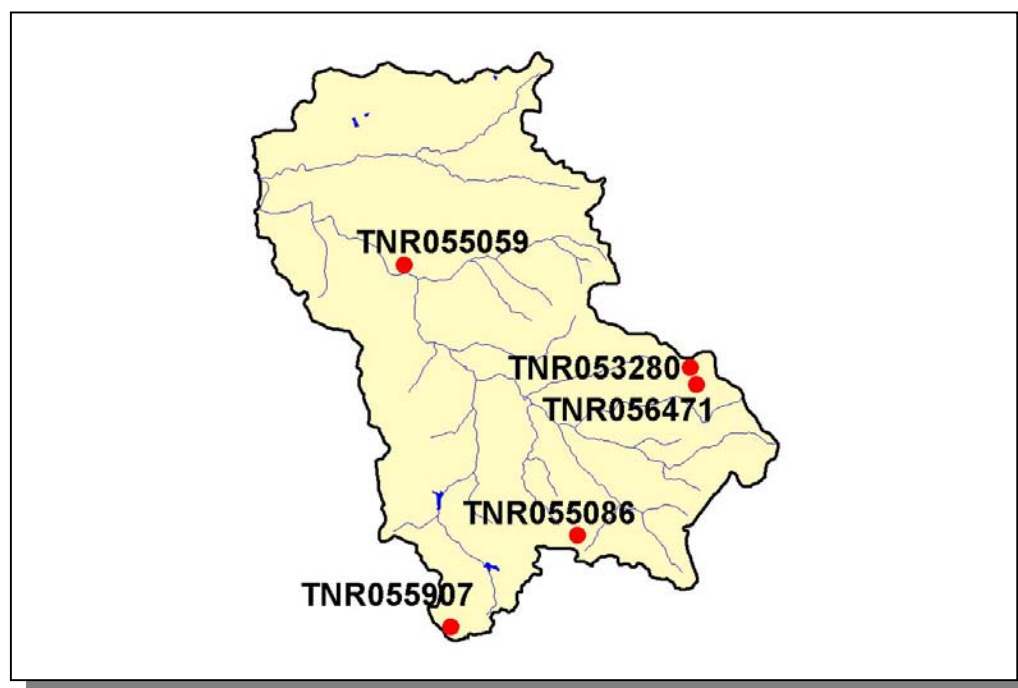


Figure 4-118. Location of TMSP Sites in Subwatershed 051302060501. More information, including the names of facilities, is provided in Appendix IV.

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4.2.D.i.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
2,887	6,129	434	<5	868	35

Table 4-87. Summary of Livestock Count Estimates in Subwatershed 051302060501. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Robertson	22,502	47,887	3,478	31	6,982	279
Sumner	22,296	45,116	1,515	50	2,500	189

Table 4-88. Summary of Livestock Count Estimates in Montgomery and Sumner Counties. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Robertson	53.0	53.0	2.2	9.7
Sumner	88.2	88.2	2.0	6.3

Table 4-89. Forest Acreage and Annual Removal Rates (1987-1994) in Robertson and Sumner Counties.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.66
Grass (Hayland)	0.37
Legumes, Grass (Hayland)	0.52
Legumes (Hayland)	0.71
Grass, Forbs, Legumes (Mixed Pasture)	0.42
Corn (Row Crops)	5.43
Soybeans (Row Crops)	10.08
Tobacco (Row Crops)	11.87
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	9.97
Conservation Reserve Program Lands	0.36
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.93

Table 4-90. Annual Estimated Total Soil Loss in Subwatershed 051302060501.

4.2.D.ii. 051302060502 (Sulphur Fork Creek).

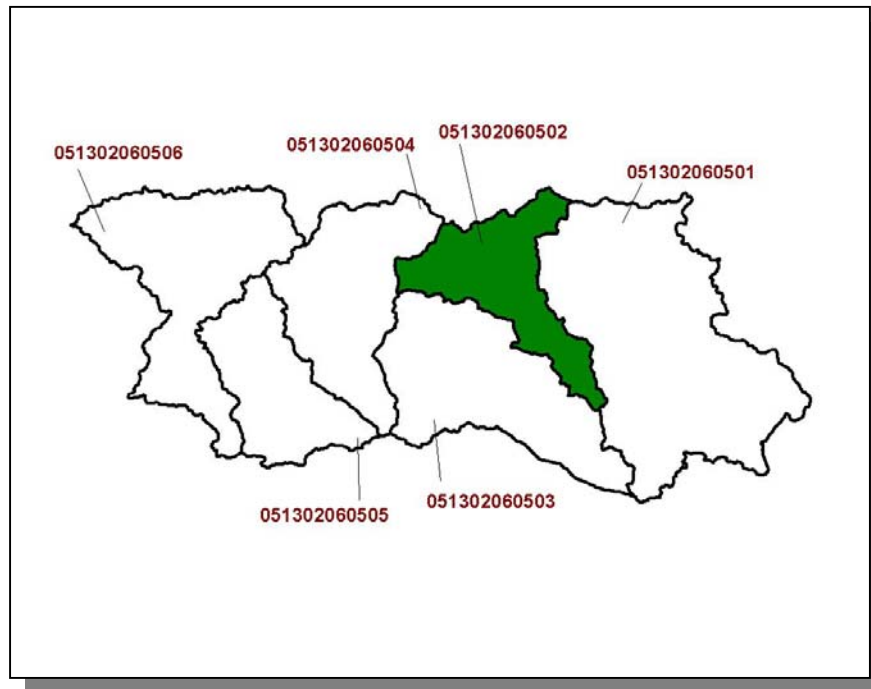


Figure 4-119. Location of Subwatershed 051302060502. All HUC-12 subwatershed boundaries are shown for reference.

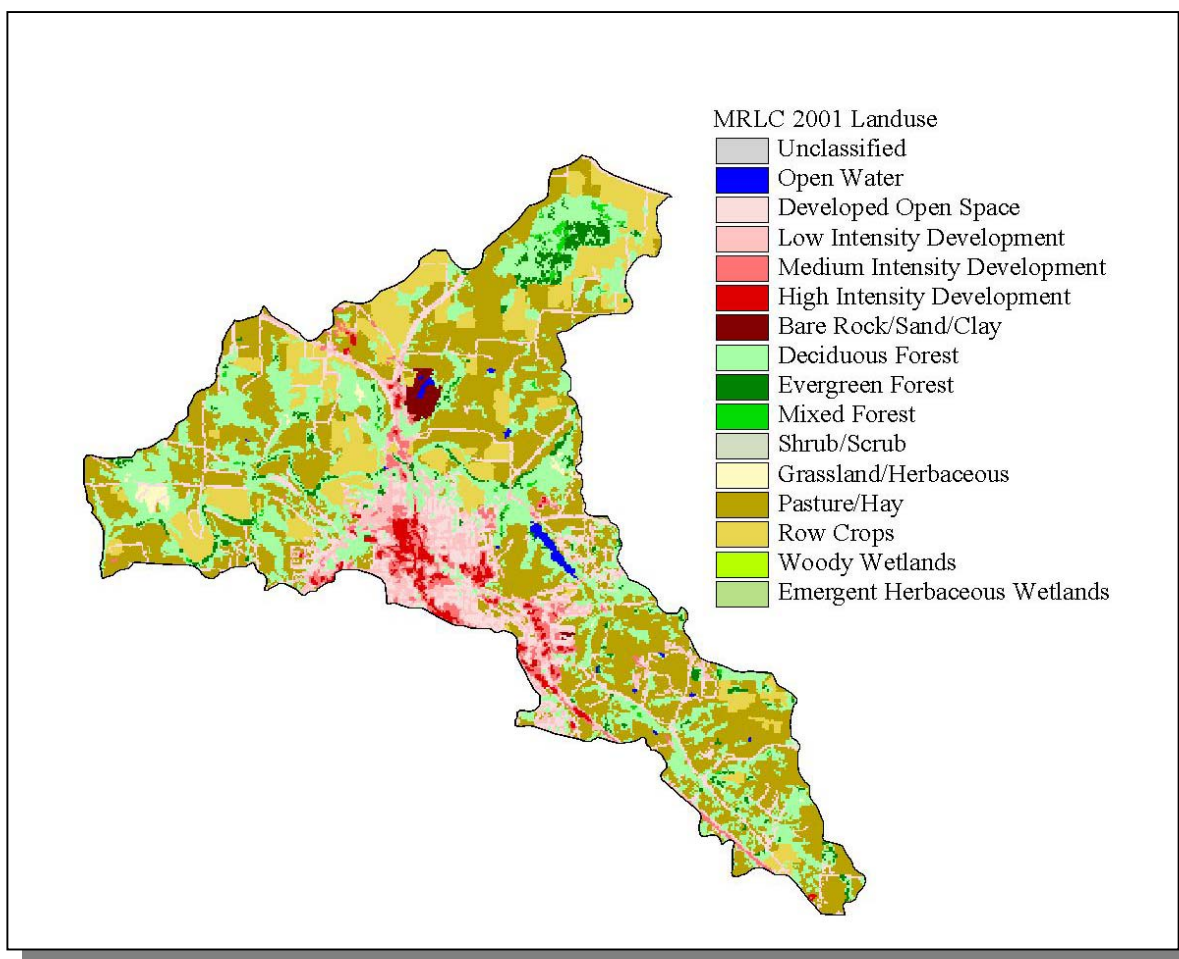


Figure 4-120. Illustration of Land Use Distribution in Subwatershed 051302060502.

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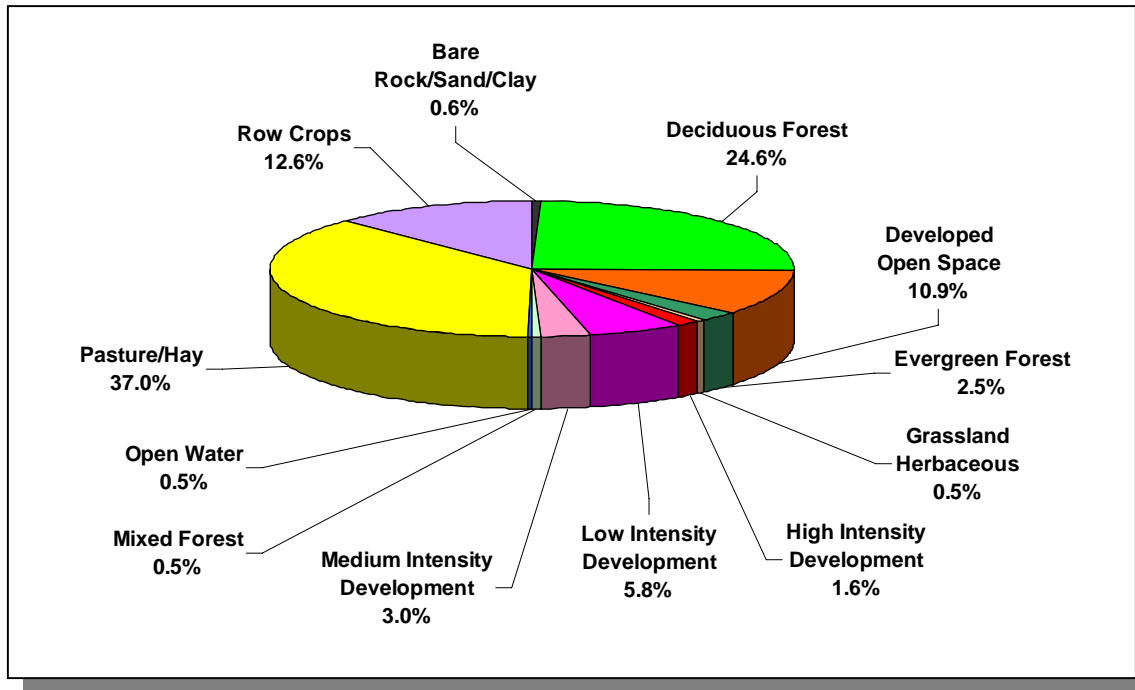


Figure 4-121. Land Use Distribution in Subwatershed 051302060502. More information is provided in Appendix IV.

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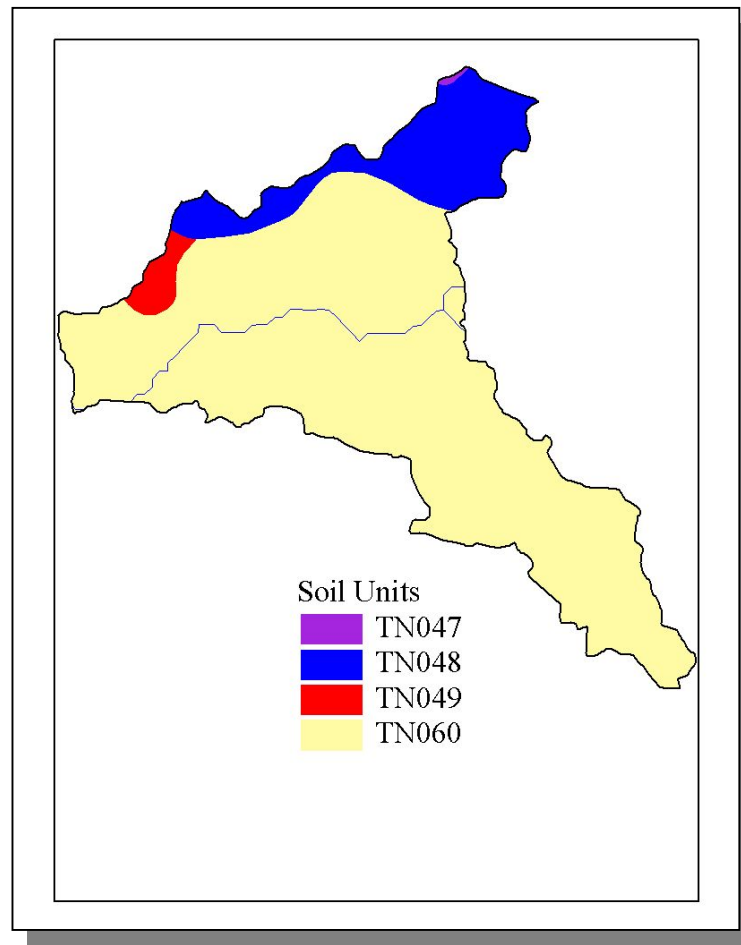


Figure 4-122. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060502.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN047	21.00	C	1.62	5.73	Silty Loam	0.37
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN049	0.00	C	1.30	5.94	Silty Loam	0.34
TN060	5.00	C	1.30	5.32	Silty Loam	0.39

Table 4-91. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060502. The definition of "Hydrologic Group" is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Robertson	41,494	51,533	54,433	4.64	1,926	2,392	2,526	31.2

Table 4-92. Population Estimates in Subwatershed 051302060502.

Populated Place	County	Population	NUMBER OF HOUSING UNITS			
			Total	Public Sewer	Septic Tank	Other
Greenbrier	Robertson	2,873	1,111	1,016	86	9
Springfield	Robertson	11,227	4,530	4,436	94	0
Total		14,100	5,641	5,452	180	9

Table 4-93. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060502.

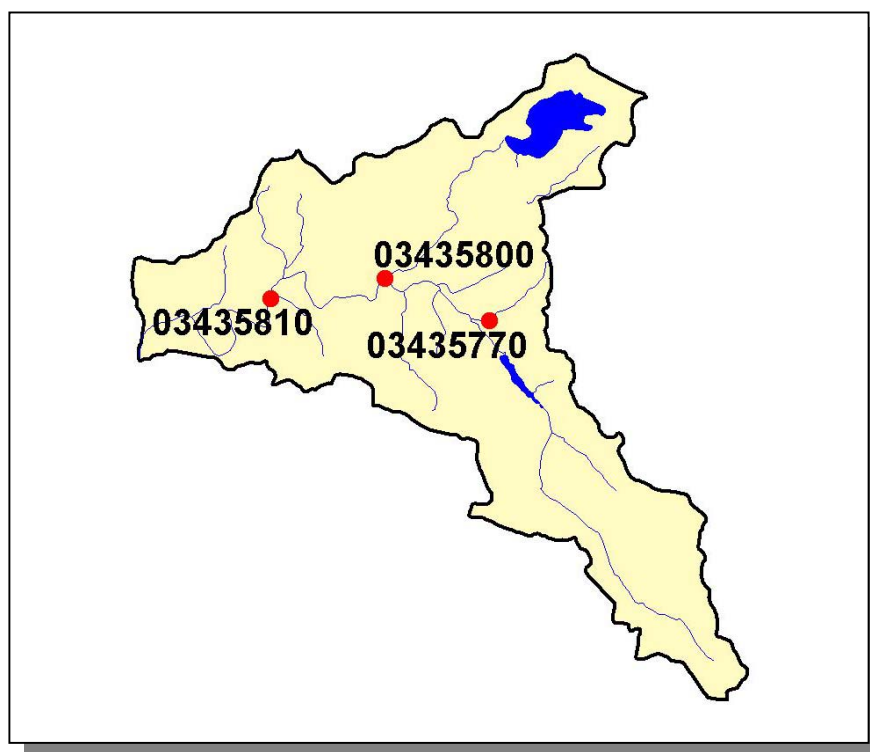


Figure 4-123. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060502. More information is provided in Appendix IV.

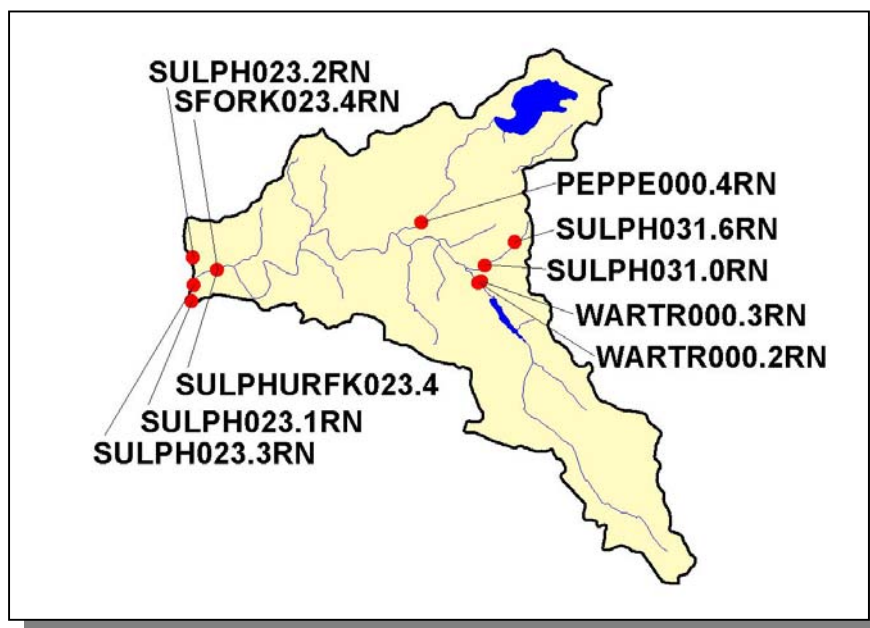


Figure 4-124. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060502. More information, including site names and locations and stations located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.D.ii.a. Point Source Contributions.

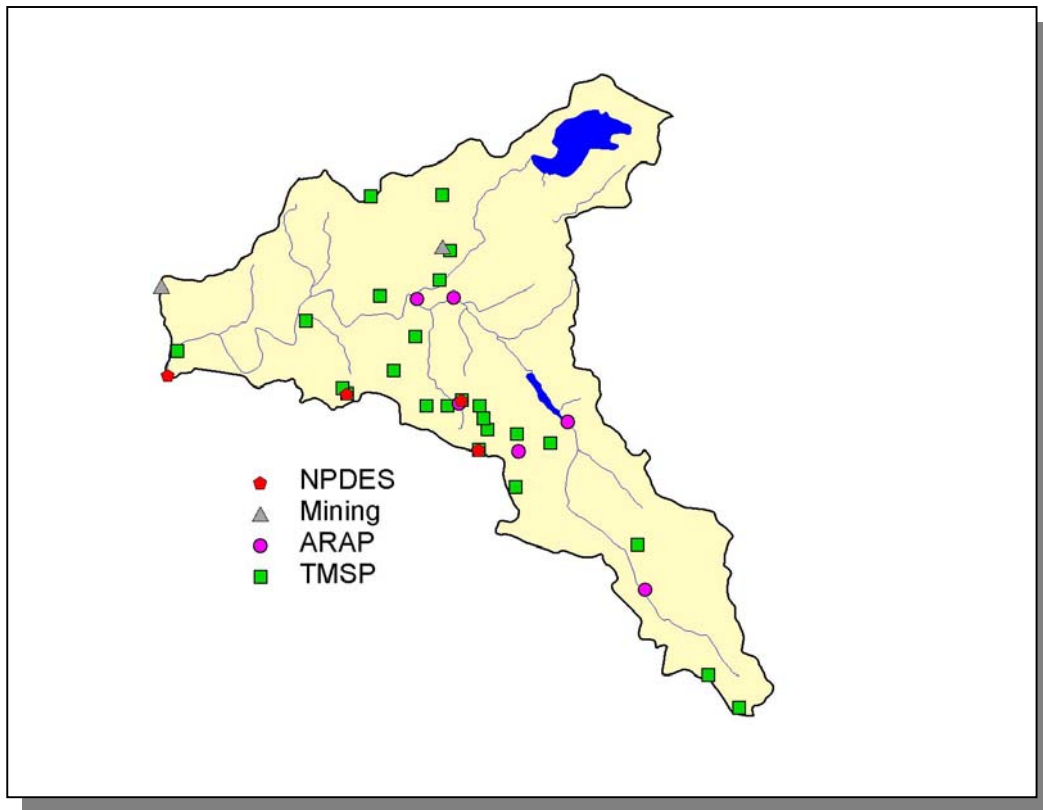


Figure 4-125. Location of Permits Issued in Subwatershed 051302060502. More information, including the names of facilities, is provided in Appendix IV.

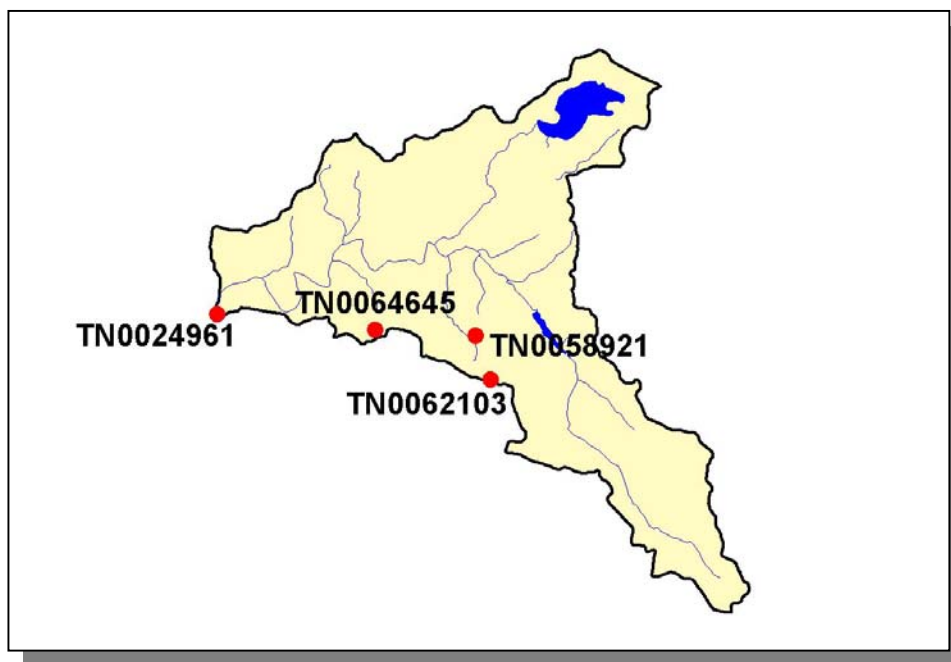


Figure 4-126. Location of Active NPDES Sites in Subwatershed 051302060502. More information, including the names of facilities, is provided in Appendix IV.

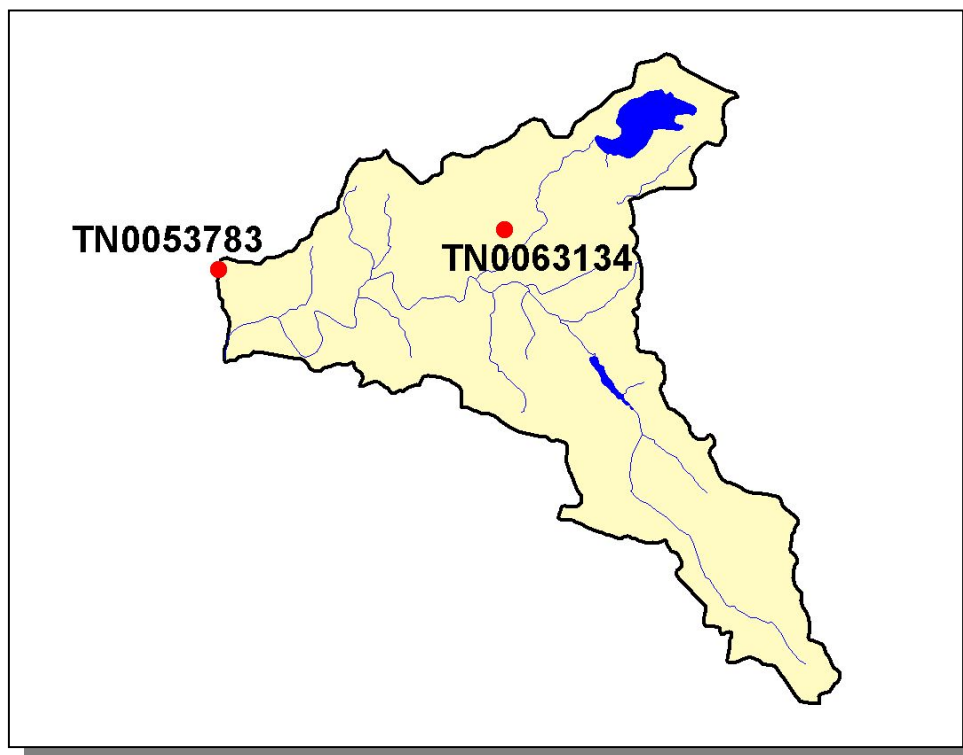


Figure 4-127. Location of Active Mining Sites in Subwatershed 051302060502. More information, including the names of mining operations, is provided in Appendix IV.

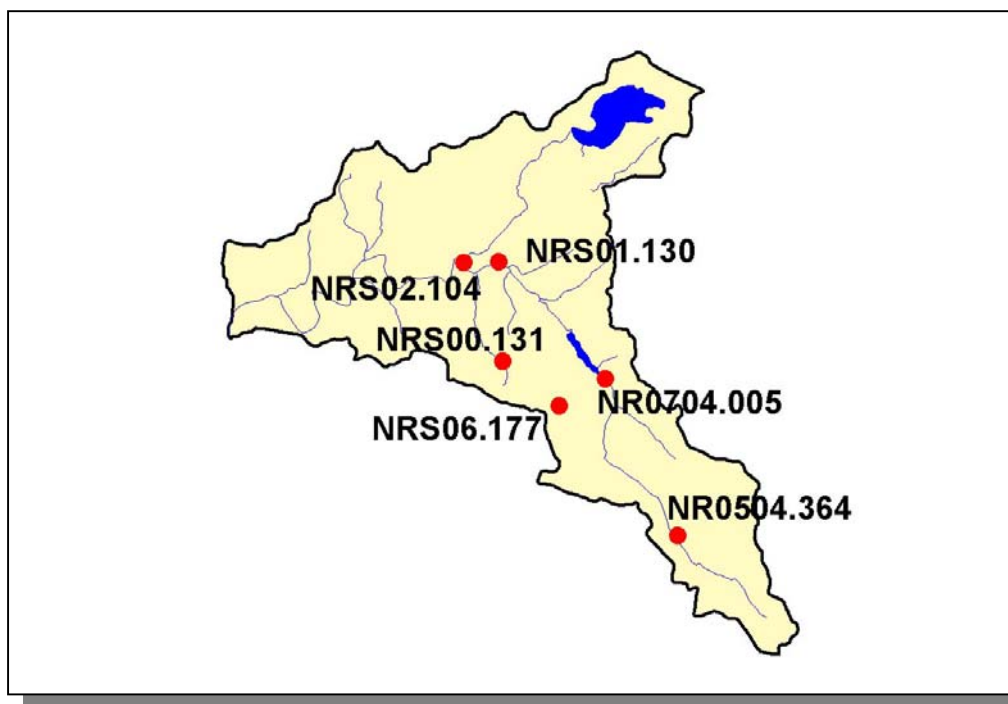


Figure 4-128. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060502. More information is provided in Appendix IV.

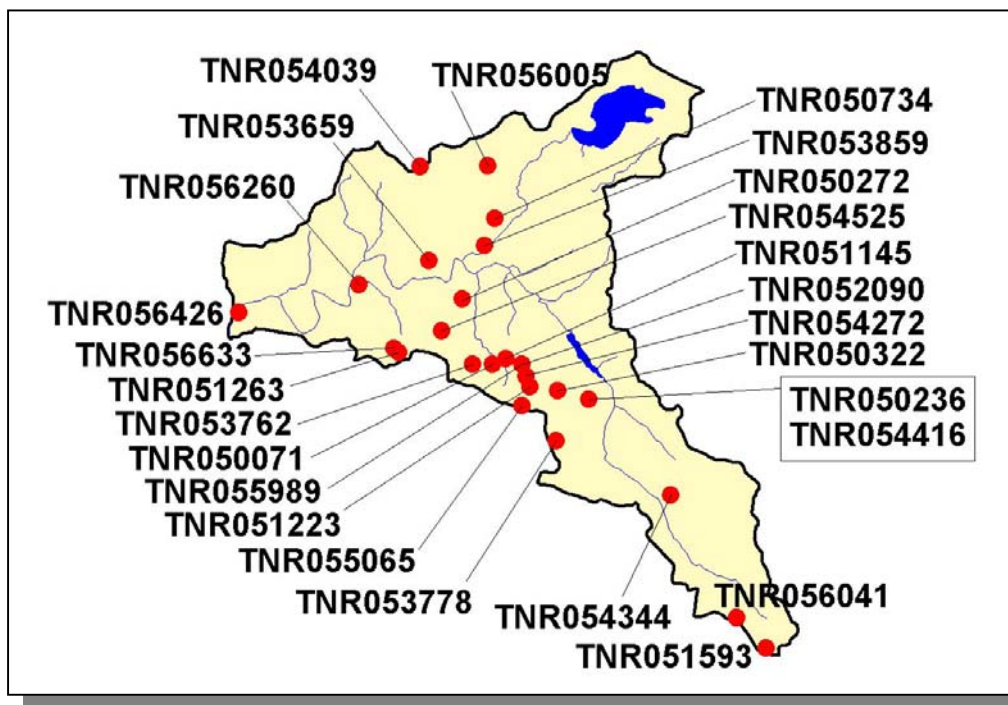


Figure 4-129. Location of TMSP Sites in Subwatershed 051302060502. More information, including the names of facilities, is provided in Appendix IV.

4.2.D.ii.a.i. Dischargers to Water Bodies Listed on the 2004 303(d) List

There is one NPDES facility discharging to water bodies listed on the 2004 303(d) list in Subwatershed 051302060502:

- TN0024961 (Springfield STP) discharges to Sulphur Fork Creek @ RM 23.2

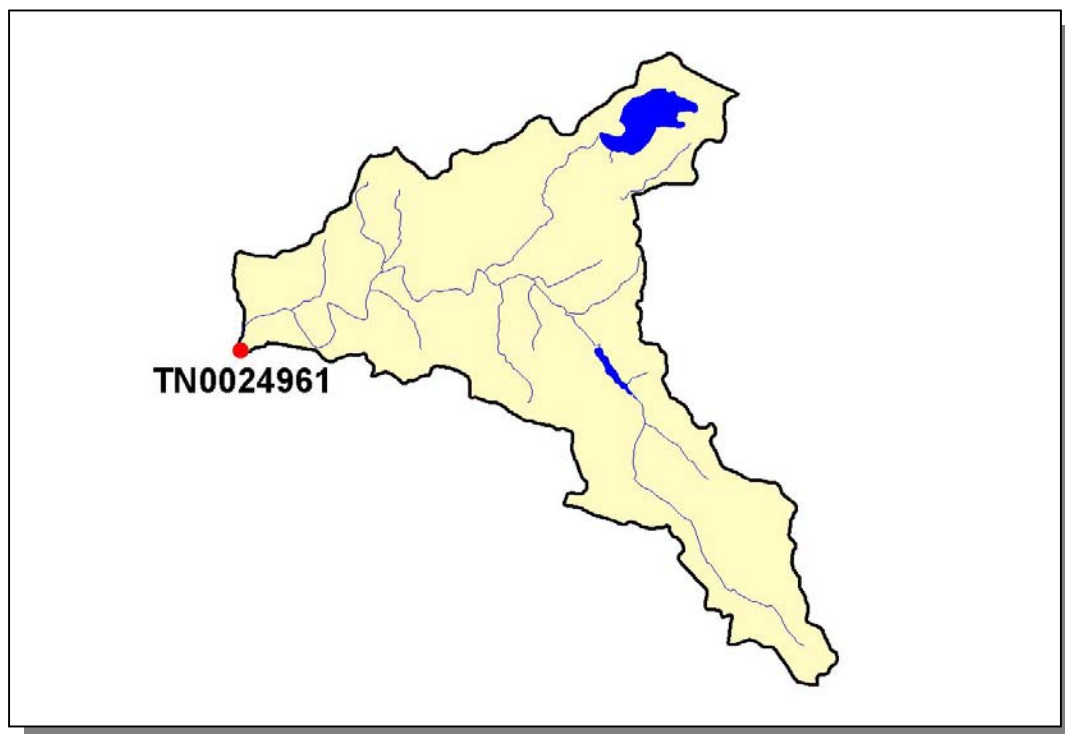


Figure 4-130. Location of NPDES Dischargers to Water Bodies Listed on the 2004 303(d) List in Subwatershed 051302060502. More information, including the names of facilities, is provided in Appendix IV.

PERMIT #	1Q10	3Q10	7Q10	3Q20	3Q5	QDESIGN
TN0024961	Regulated		4.4		8.34	3.4

Table 4-94. Receiving Stream Flow Information for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060502. Data are in million gallons per day (MGD). Data were obtained from the USGS publication Flow Duration and Low Flows of Tennessee Streams Through 1992 or from permit files.

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PERMIT #	TOTAL NITROGEN	TOTAL PHOSPHOROUS	TEMPERATURE	FLOW
TN0024961	X	X	X	X

Table 4-95. Monitoring Requirements for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060502.

PERMIT #	WET	CBOD ₅	NH ₃	Hg	CN	TSS	DO	pH
TN0024961	X	X	X	X	X	X	X	X

Table 4-96. Parameters Monitored for Daily Maximum Limits for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060502. WET, Whole Effluent Toxicity; CBOD₅, Carbonaceous Biochemical Oxygen Demand (5-Day); NH₃, Ammonia; TSS, Total Suspended Solids; DO, Dissolved Oxygen.

PERMIT #	E. coli
TN0024961	X

Table 4-97. Bacteria Monitored for Daily Maximum Limits for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060502.

4.2.D.ii.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
1,053	2,241	163	<5	327	13

Table 4-98. Summary of Livestock Count Estimates in Subwatershed 051302060502. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Robertson	22,502	47,887	3,478	31	6,982	279

Table 4-99. Summary of Livestock Count Estimates in Robertson County. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

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	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Robertson	53.0	53.0	2.2	9.7

Table 4-100. Forest Acreage and Annual Removal Rates (1987-1994) in Robertson County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.67
Grass (Hayland)	0.37
Legumes, Grass (Hayland)	0.53
Legumes (Hayland)	0.73
Grass, Forbs, Legumes (Mixed Pasture)	0.42
Corn (Row Crops)	5.15
Soybeans (Row Crops)	10.03
Tobacco (Row Crops)	11.87
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	9.59
Conservation Reserve Program Lands	0.36
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.95

Table 4-101. Annual Estimated Total Soil Loss in Subwatershed 051302060502.

4.2.D.iii. 051302060503 (Carr Creek).

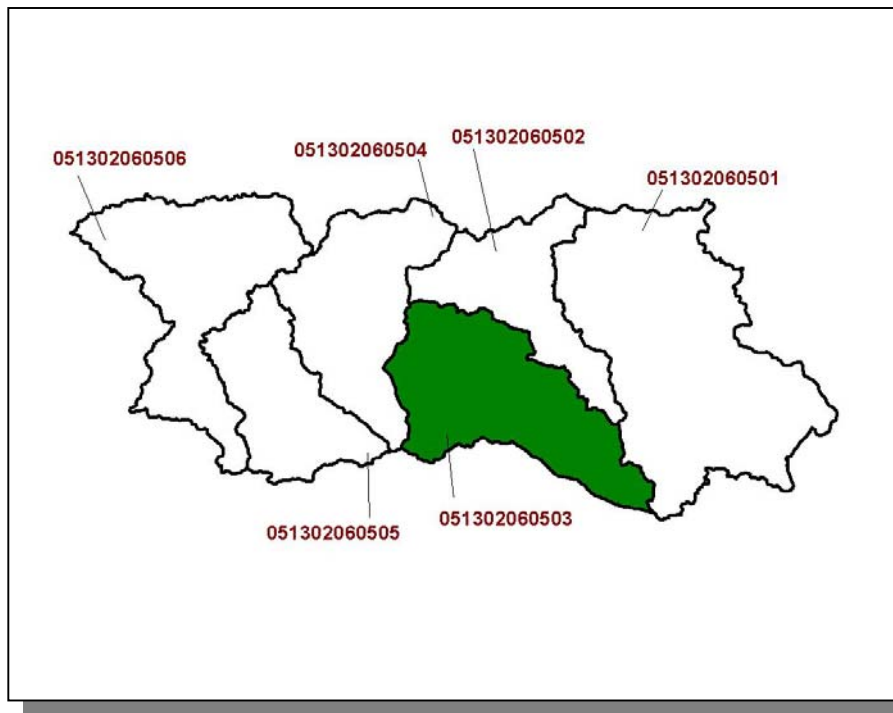


Figure 4-131. Location of Subwatershed 051302060503. All HUC-12 subwatershed boundaries are shown for reference.

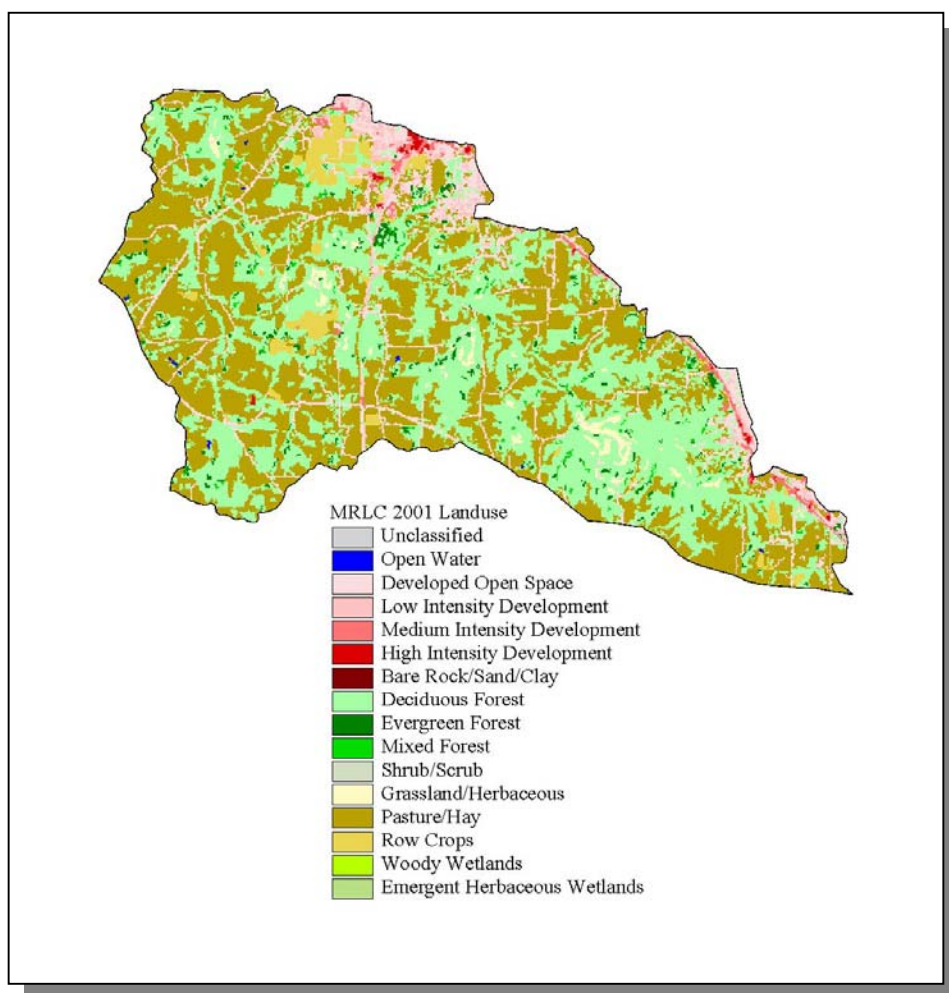


Figure 4-132. Illustration of Land Use Distribution in Subwatershed 051302060503.

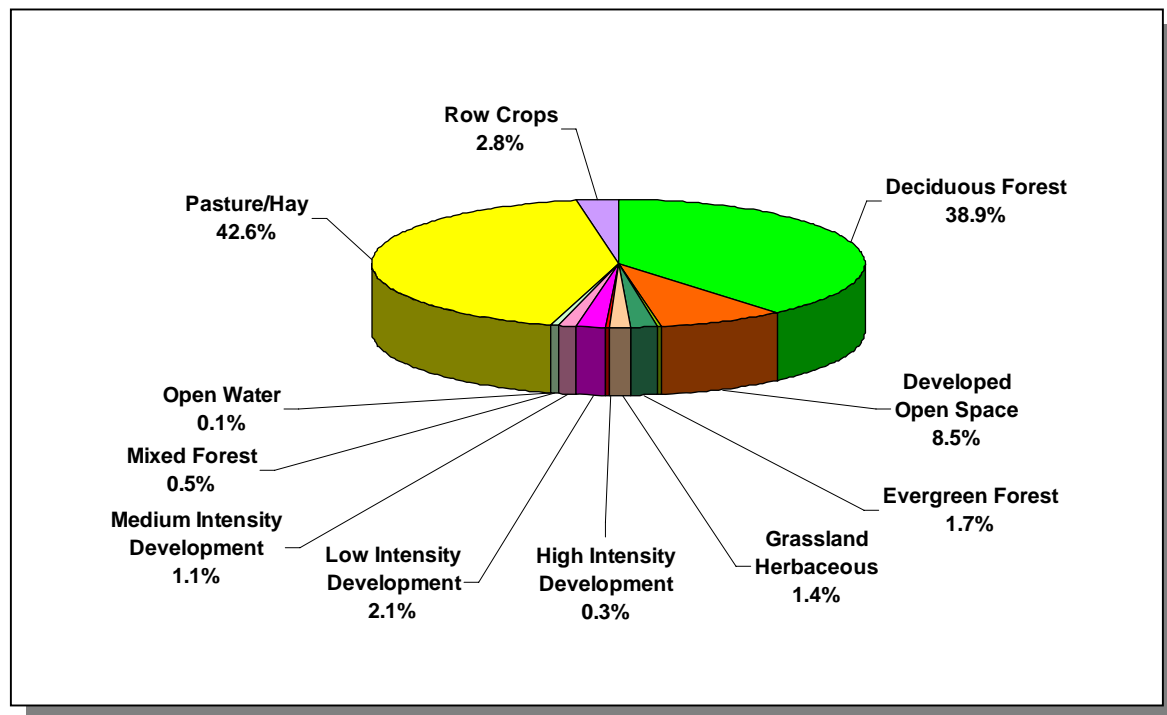


Figure 4-133. Land Use Distribution in Subwatershed 051302060503. More information is provided in Appendix IV.

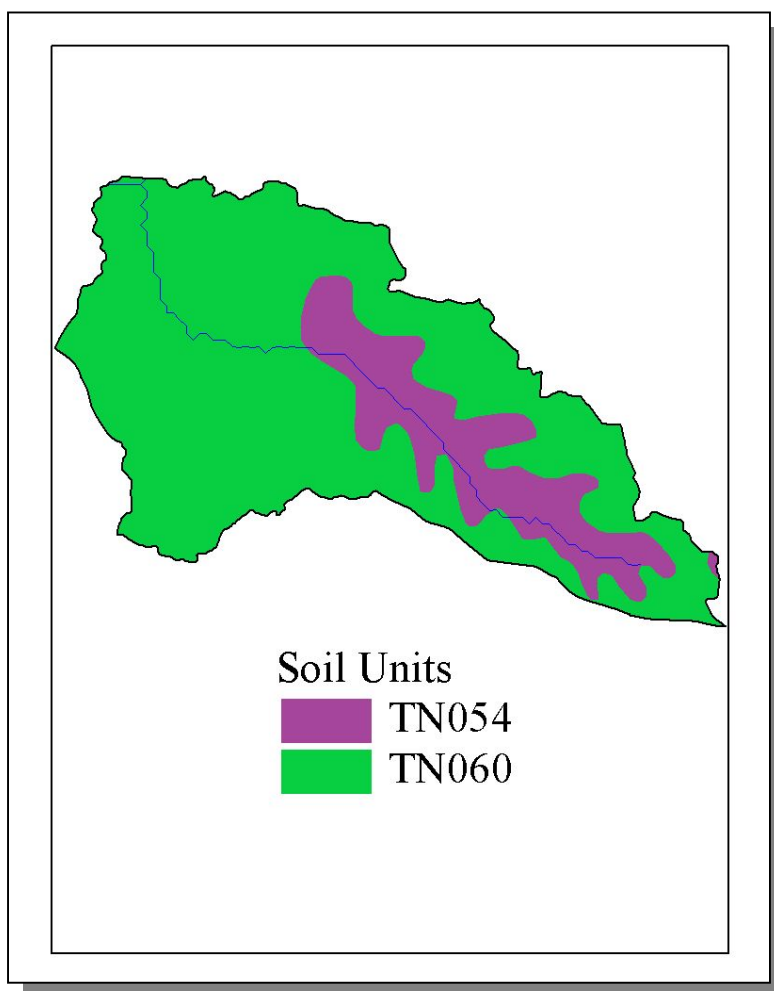


Figure 4-134. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060503.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN054	0.00	B	3.04	4.84	Loam	0.32
TN060	5.00	C	1.30	5.32	Silty Loam	0.39

Table 4-102. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060503. The definition of "Hydrologic Group" is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Robertson	41,494	51,533	54,433	7.36	3,055	3,794	4,007	31.2

Table 4-103. Population Estimates in Subwatershed 051302060503.

Populated Place	County	Population	NUMBER OF HOUSING UNITS			
			Total	Public Sewer	Septic Tank	Other
Greenbrier	Robertson	2,873	1,111	1,016	86	9
Ridgetop	Robertson	1,129	396	7	389	0
Springfield	Robertson	11,227	4,530	4,436	94	0
Total		15,229	6,037	5,459	569	9

Table 4-104. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060503.

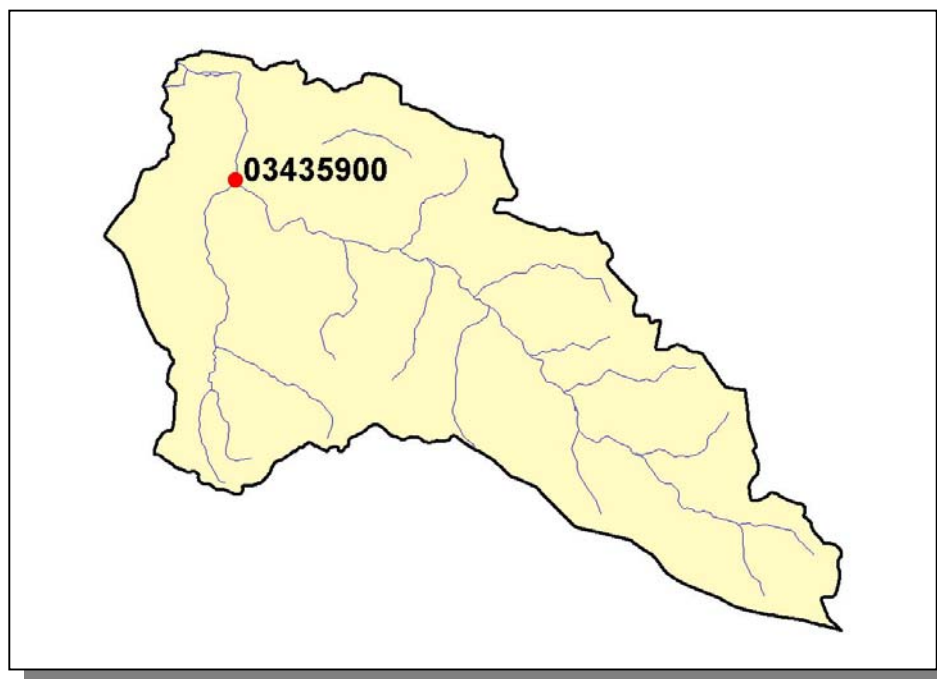


Figure 4-135. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060503. More information is provided in Appendix IV.

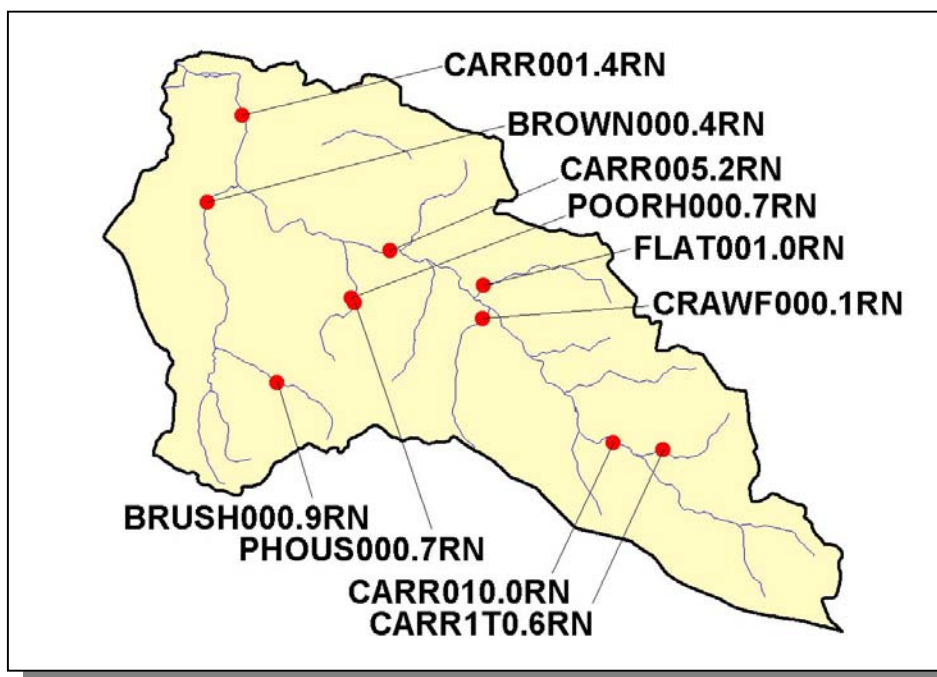


Figure 4-136. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060503. More information, including site names and locations and stations located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.D.iii.a. Point Source Contributions.

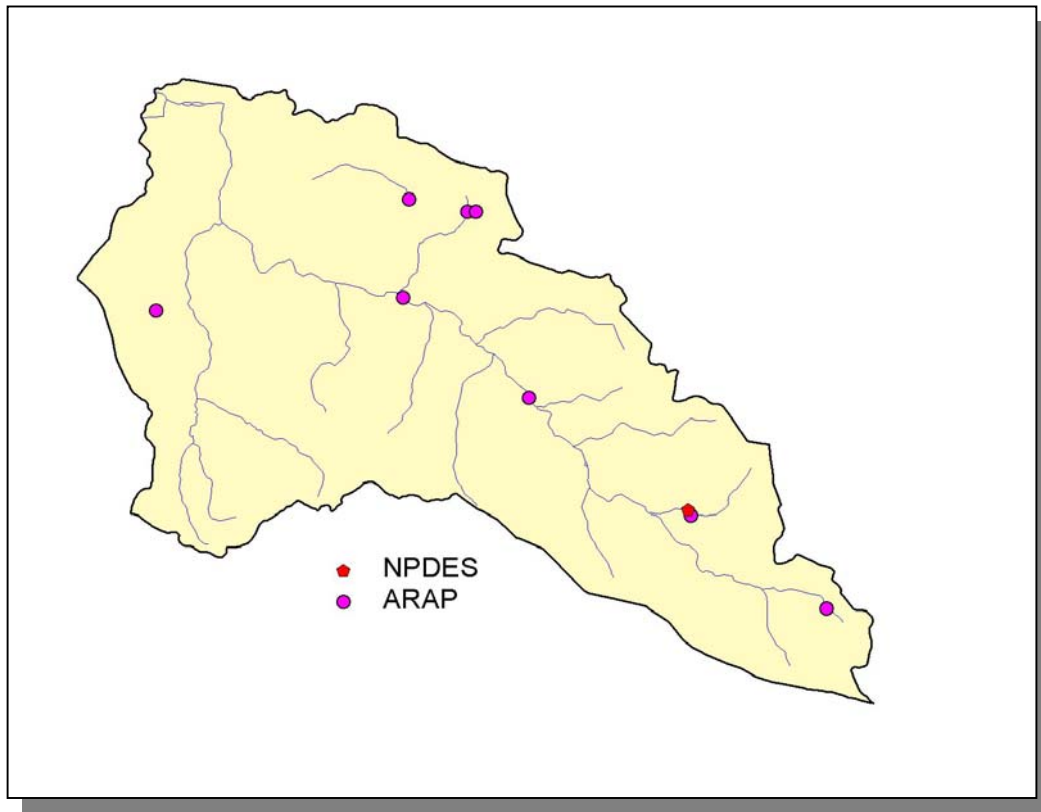


Figure 4-137. Location of Permits Issued in Subwatershed 051302060503. More information, including the names of facilities, is provided in Appendix IV.

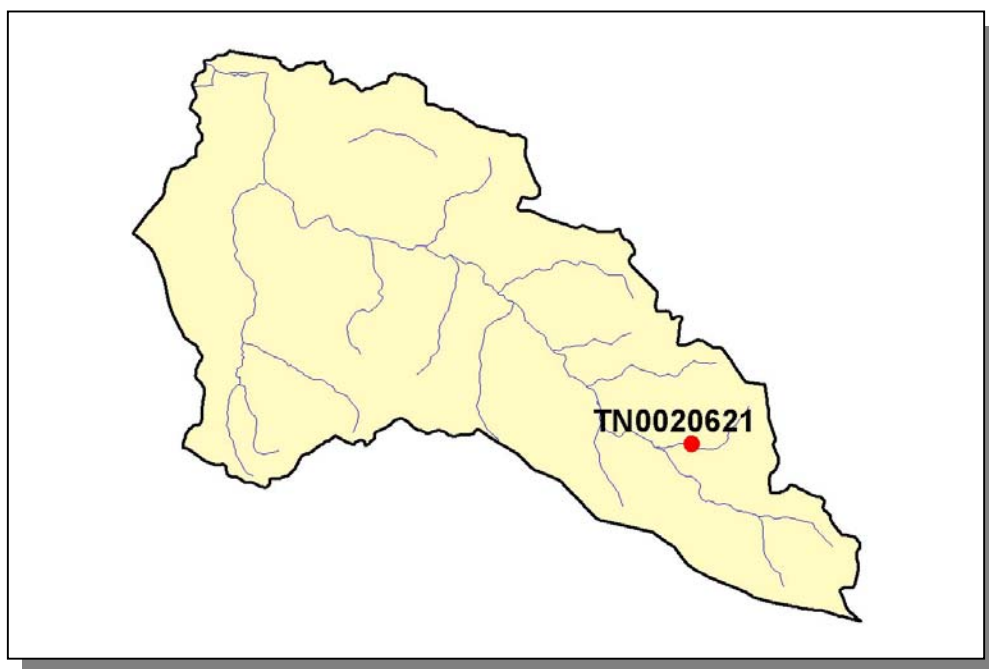


Figure 4-138. Location of Active NPDES Sites in Subwatershed 051302060503. More information, including the names of facilities, is provided in Appendix IV.

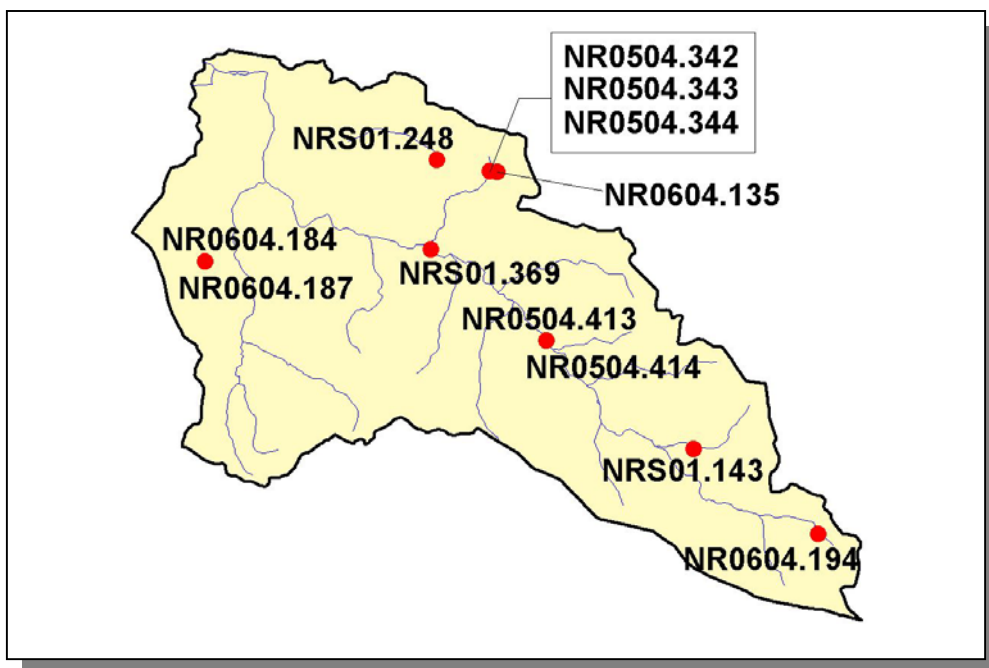


Figure 4-139. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060503. More information is provided in Appendix IV.

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4.2.D.iii.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
1,454	3,094	225	<5	451	18

Table 4-105. Summary of Livestock Count Estimates in Subwatershed 051302060503. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Robertson	22,502	47,887	3,478	31	6,982	279

Table 4-106. Summary of Livestock Count Estimates in Robertson County. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Robertson	53.0	53.0	2.2	9.7

Table 4-107. Forest Acreage and Annual Removal Rates (1987-1994) in Robertson County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.67
Grass (Hayland)	0.37
Legumes, Grass (Hayland)	0.53
Legumes (Hayland)	0.73
Grass, Forbs, Legumes (Mixed Pasture)	0.42
Corn (Row Crops)	5.15
Soybeans (Row Crops)	10.03
Tobacco (Row Crops)	11.87
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	9.59
Conservation Reserve Program Lands	0.36
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.95

Table 4-108. Annual Estimated Total Soil Loss in Subwatershed 051302060503.

4.2.D.iv. 051302060504 (Sulphur Fork Creek).

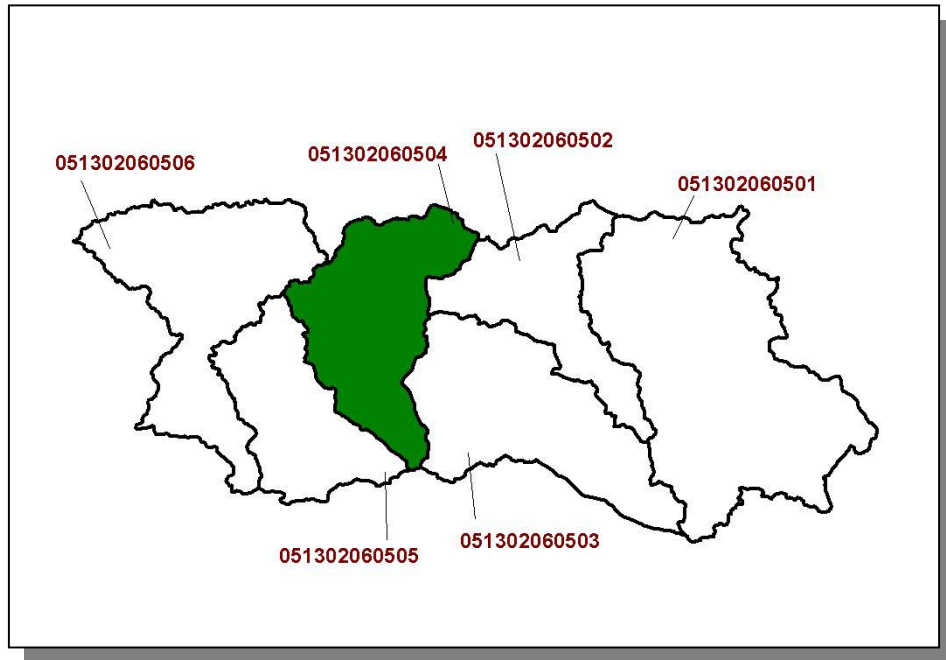


Figure 4-140. Location of Subwatershed 051302060504. All HUC-12 subwatershed boundaries are shown for reference.

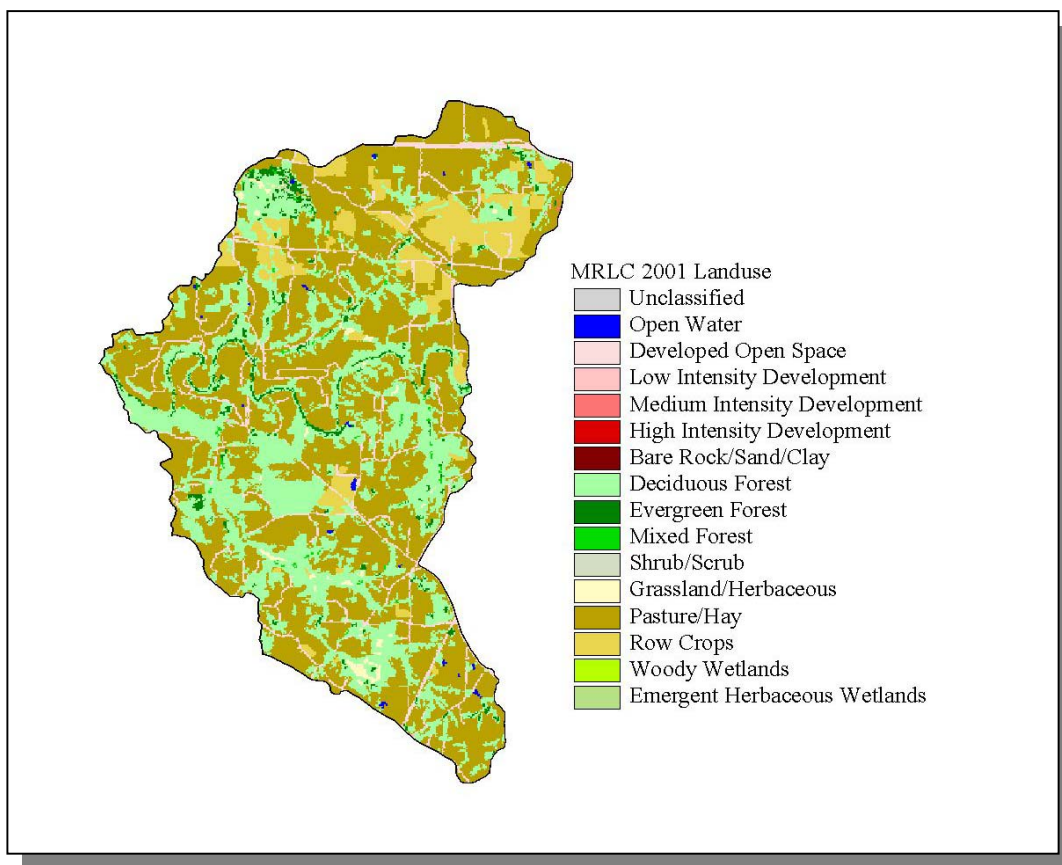


Figure 4-141. Illustration of Land Use Distribution in Subwatershed 051302060504.

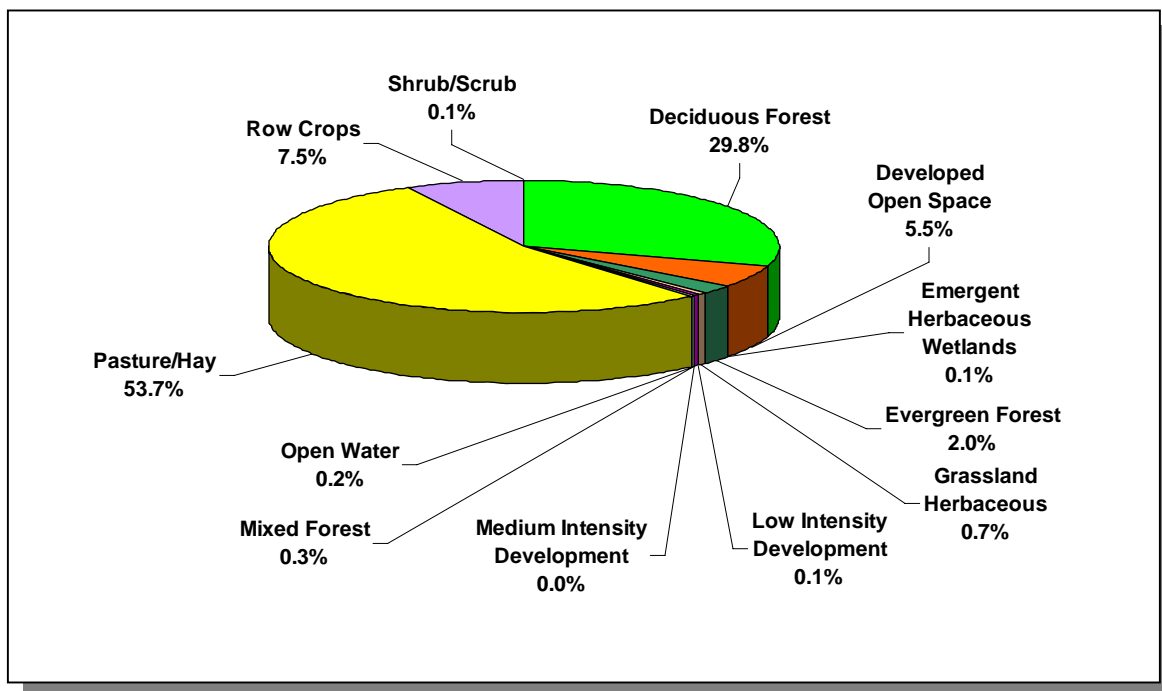


Figure 4-142. Land Use Distribution in Subwatershed 051302060504. More information is provided in Appendix IV.

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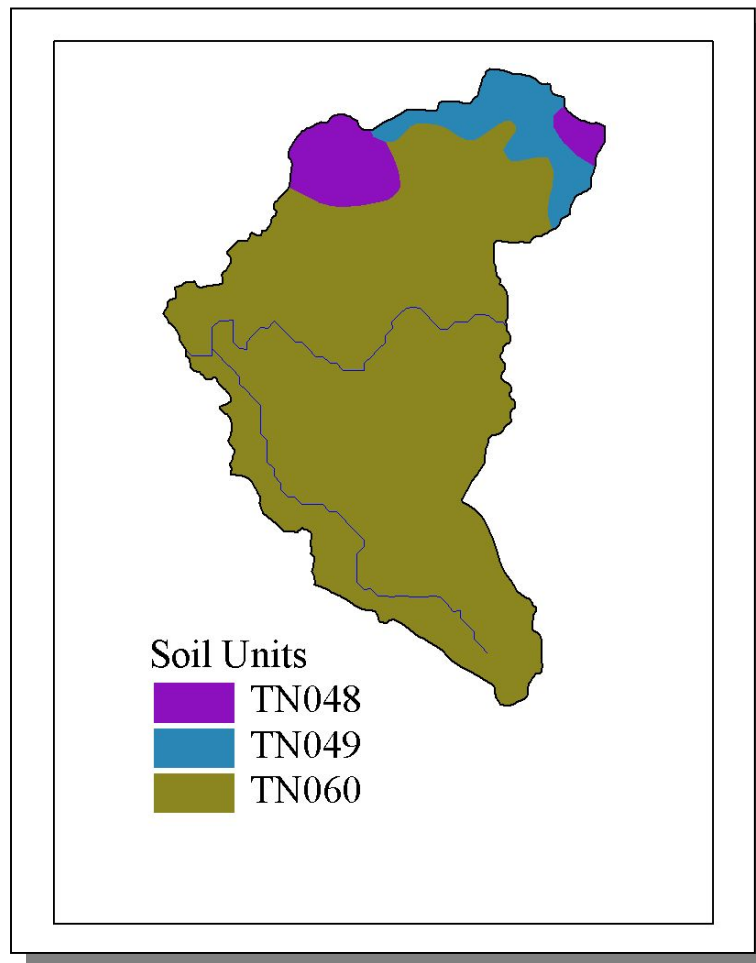


Figure 4-143. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060504.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN049	0.00	C	1.30	5.94	Silty Loam	0.34
TN060	5.00	C	1.30	5.32	Silty Loam	0.39

Table 4-109. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060504. The definition of “Hydrologic Group” is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Robertson	41,494	51,533	54,433	6.27	2,600	3,230	3,411	31,2

Table 4-110. Population Estimates in Subwatershed 051302060504.

Populated Place	County	Population	NUMBER OF HOUSING UNITS			
			Total	Public Sewer	Septic Tank	Other
Cedar Hill	Robertson	363	128	16	105	7

Table 4-111. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060504.

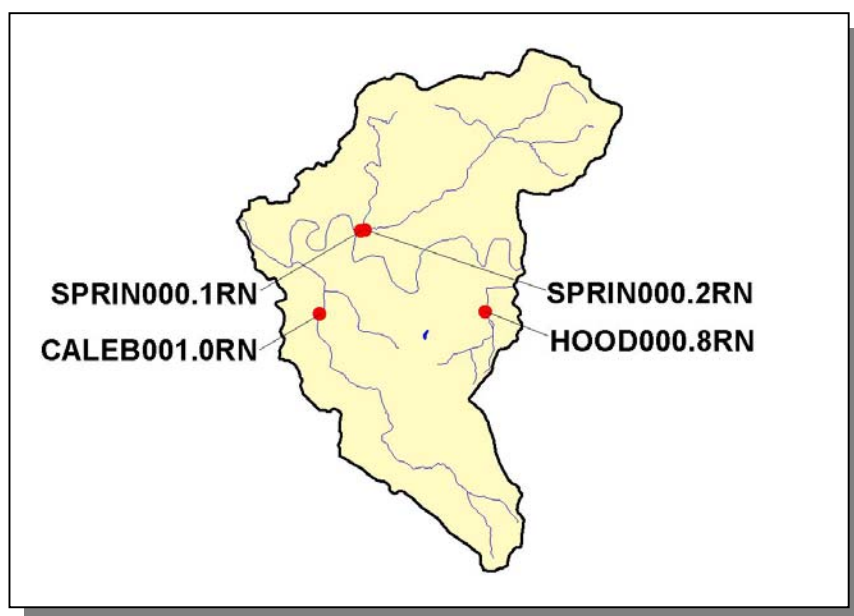


Figure 4-144. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060504. More information, including site names and locations and stations located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.D.iv.a. Point Source Contributions.

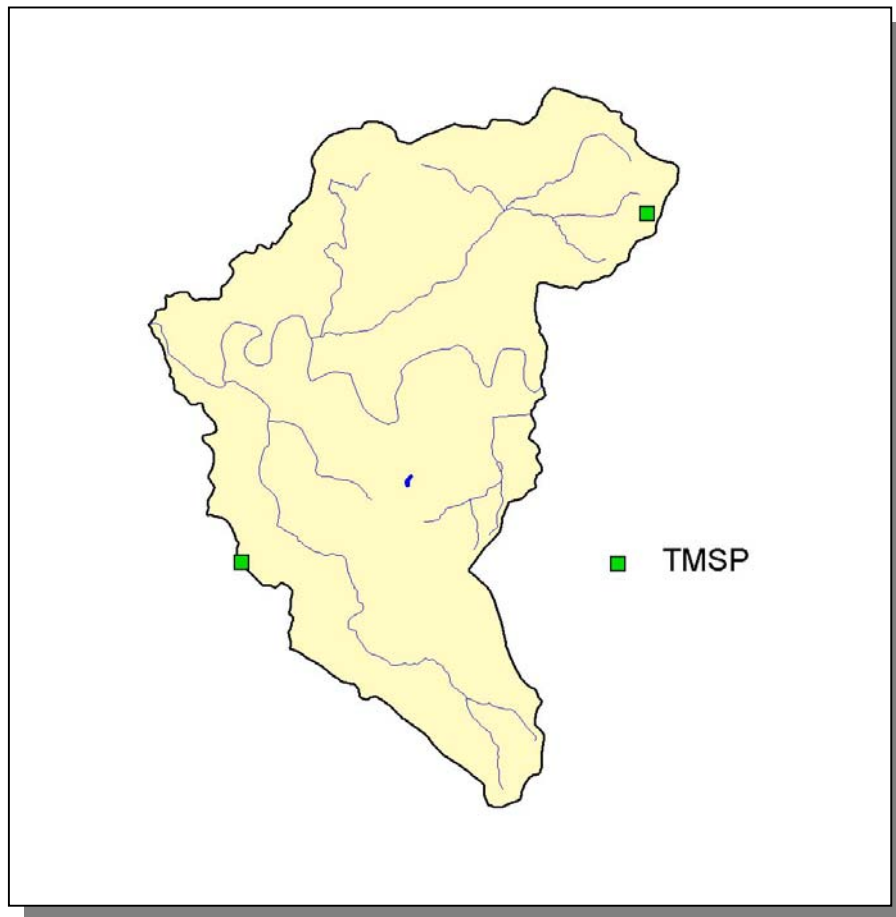


Figure 4-145. Location of Permits Issued in Subwatershed 051302060504. More information, including the names of facilities, is provided in Appendix IV.

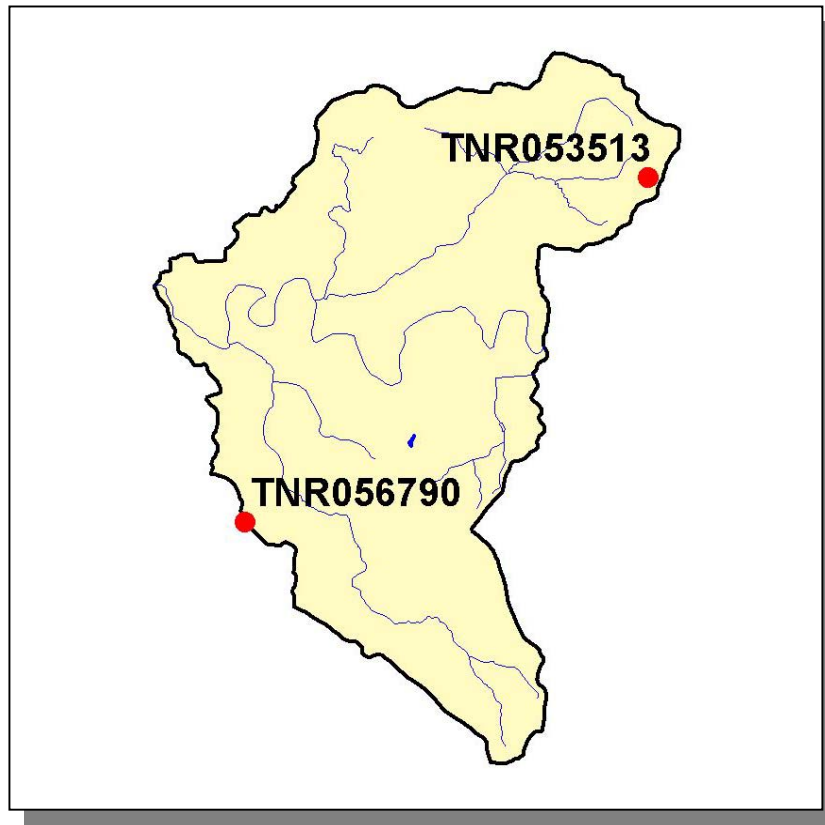


Figure 4-146. Location of TMSP Sites in Subwatershed 051302060504. More information, including the names of facilities, is provided in Appendix IV.

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4.2.D.iv.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
1,505	3,202	233	<5	467	19

Table 4-112. Summary of Livestock Count Estimates in Subwatershed 051302060504. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Robertson	22,502	47,887	3,478	31	6,982	279

Table 4-113. Summary of Livestock Count Estimates in Robertson County. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Robertson	53.0	53.0	2.2	9.7

Table 4-114. Forest Acreage and Annual Removal Rates (1987-1994) in Robertson County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.67
Grass (Hayland)	0.37
Legumes, Grass (Hayland)	0.53
Legumes (Hayland)	0.73
Grass, Forbs, Legumes (Mixed Pasture)	0.42
Corn (Row Crops)	5.15
Soybeans (Row Crops)	10.03
Tobacco (Row Crops)	11.87
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	9.59
Conservation Reserve Program Lands	0.36
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.95

Table 4-115. Annual Estimated Total Soil Loss in Subwatershed 051302060504.

4.2.D.v. 051302060505 (Millers Creek).

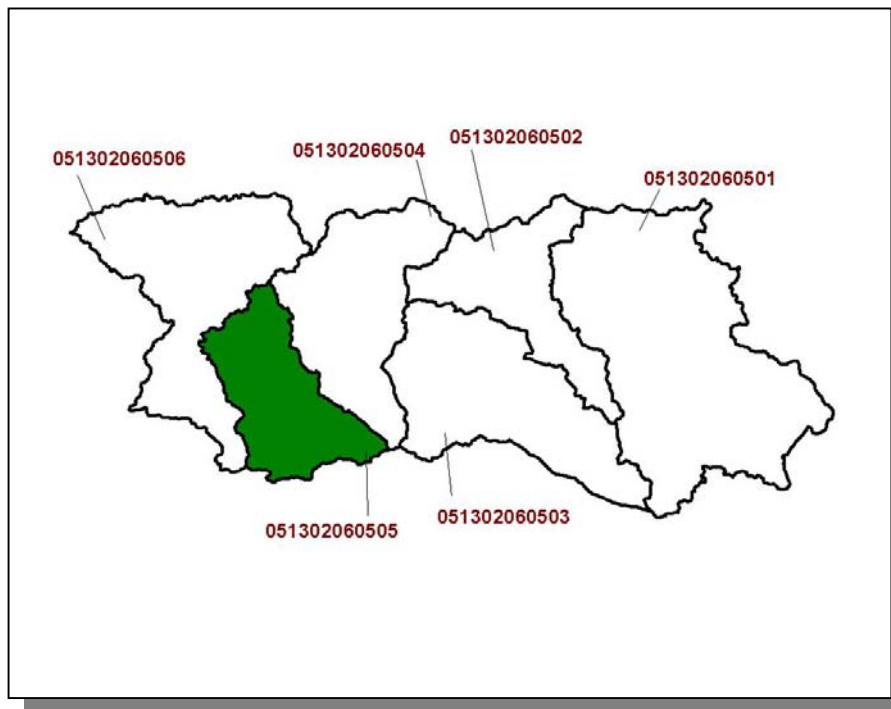


Figure 4-147. Location of Subwatershed 051302060505. All HUC-12 subwatershed boundaries are shown for reference.

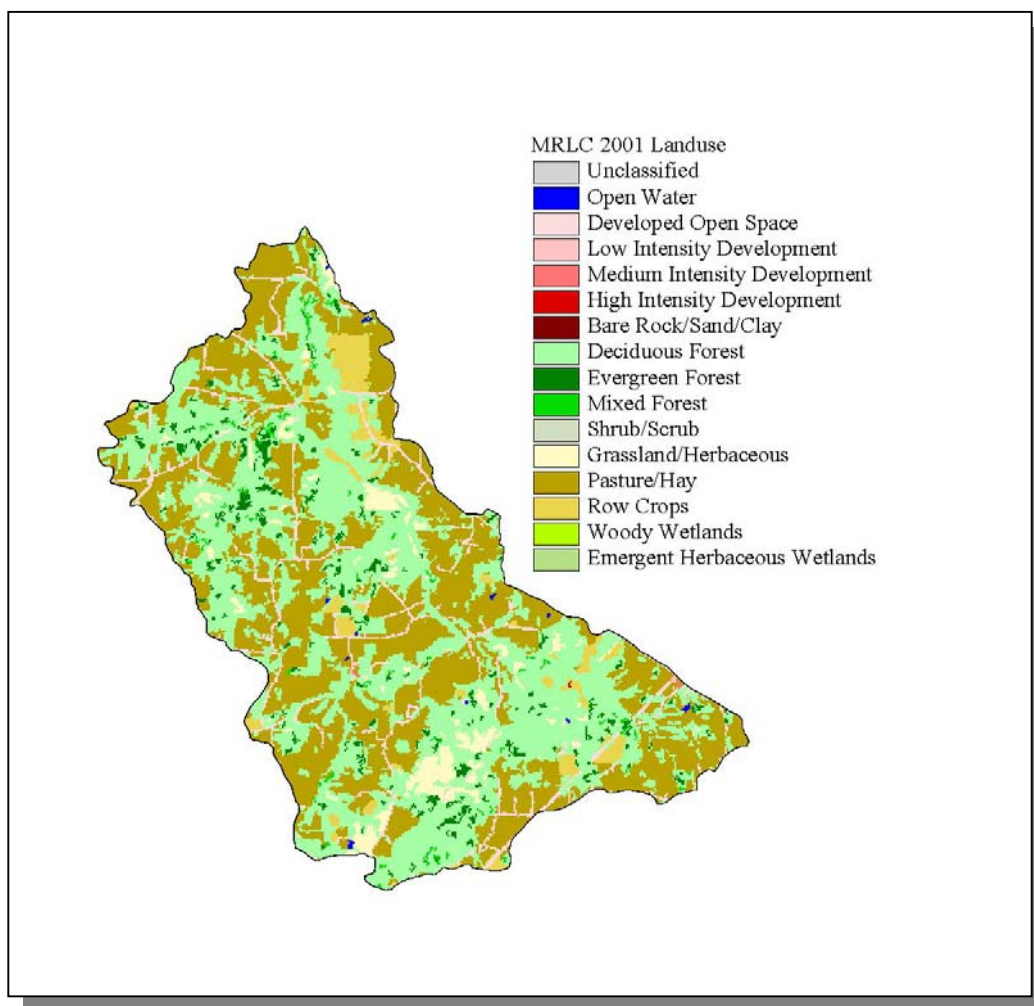


Figure 4-148. Illustration of Land Use Distribution in Subwatershed 051302060505.

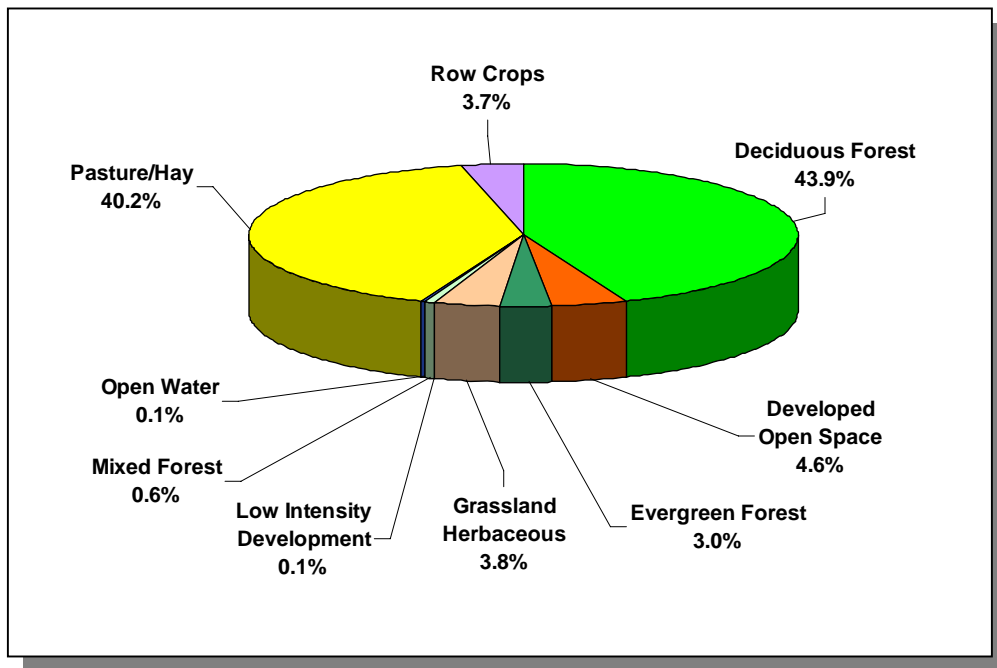


Figure 4-149. Land Use Distribution in Subwatershed 051302060505. More information is provided in Appendix IV.

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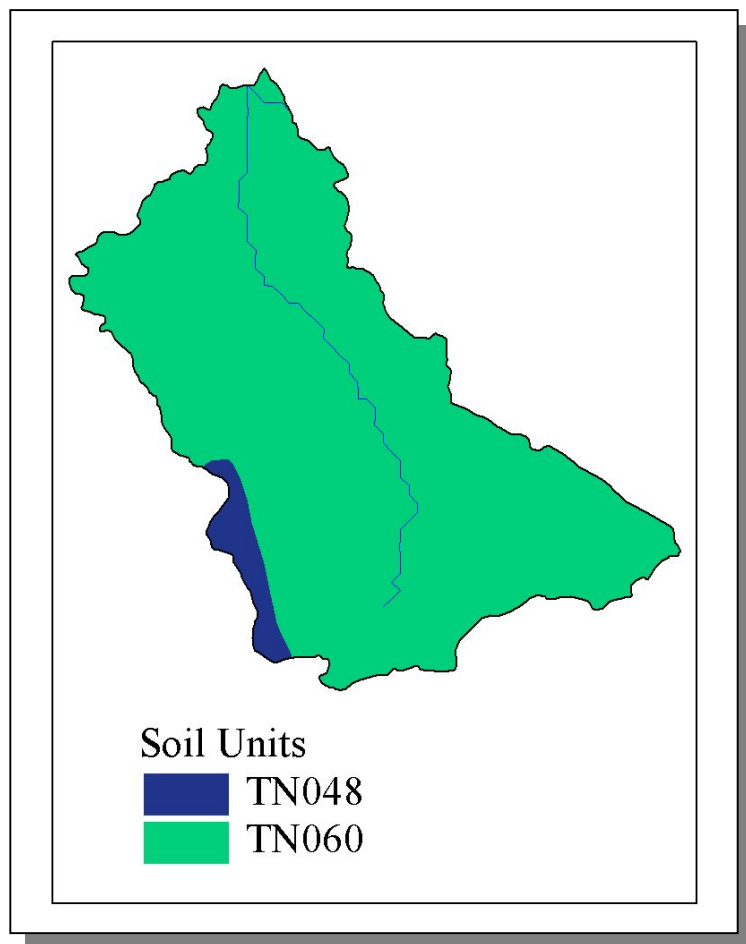


Figure 4-150. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060505.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN060	5.00	C	1.30	5.32	Silty Loam	0.39

Table 4-116. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060505. The definition of "Hydrologic Group" is provided in Appendix IV.

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	COUNTY POPULATION				ESTIMATED POPULATION IN WATERSHED			
County	1990	1997	2000	Portion of Watershed (%)	1990	1997	2000	% Change (1990-2000)
Robertson	41,494	51,533	54,433	4.67	1,940	2,409	2,545	31.2

Table 4-117. Population Estimates in Subwatershed 051302060505.



Figure 4-151. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060505. More information is provided in Appendix IV.



Figure 4-152. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060505. More information, including site names and locations and stations located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.D.v.a. Point Source Contributions.

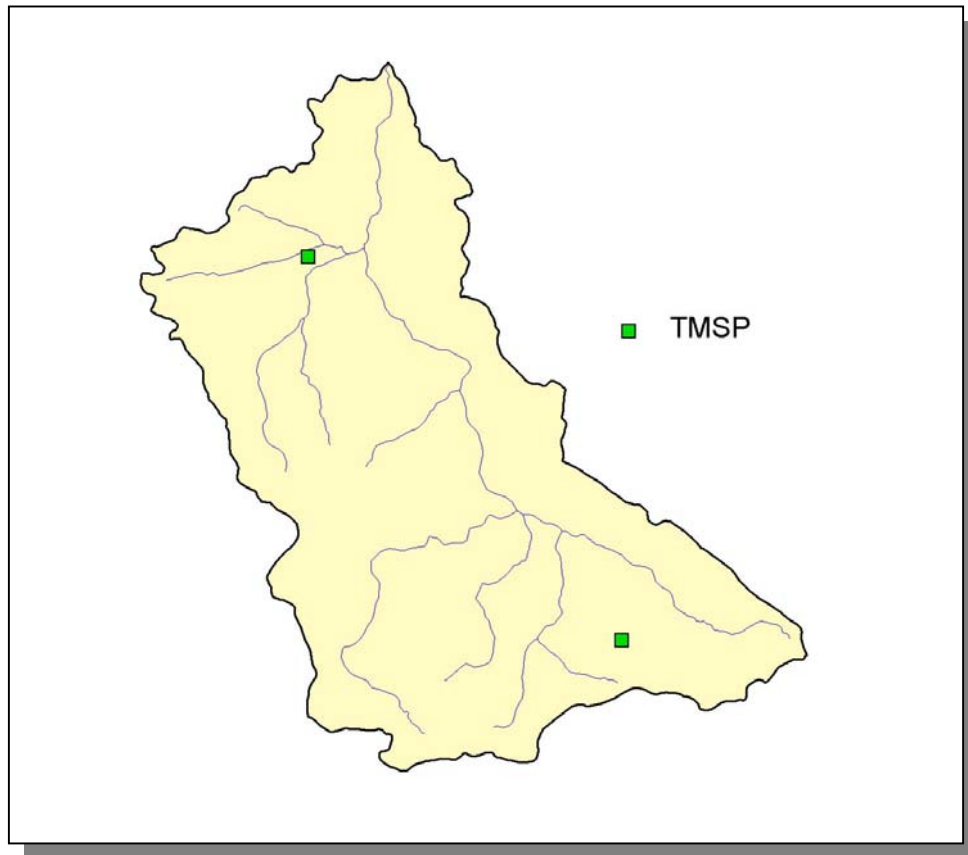


Figure 4-153. Location of Permits Issued in Subwatershed 051302060505. More information, including the names of facilities, is provided in Appendix IV.

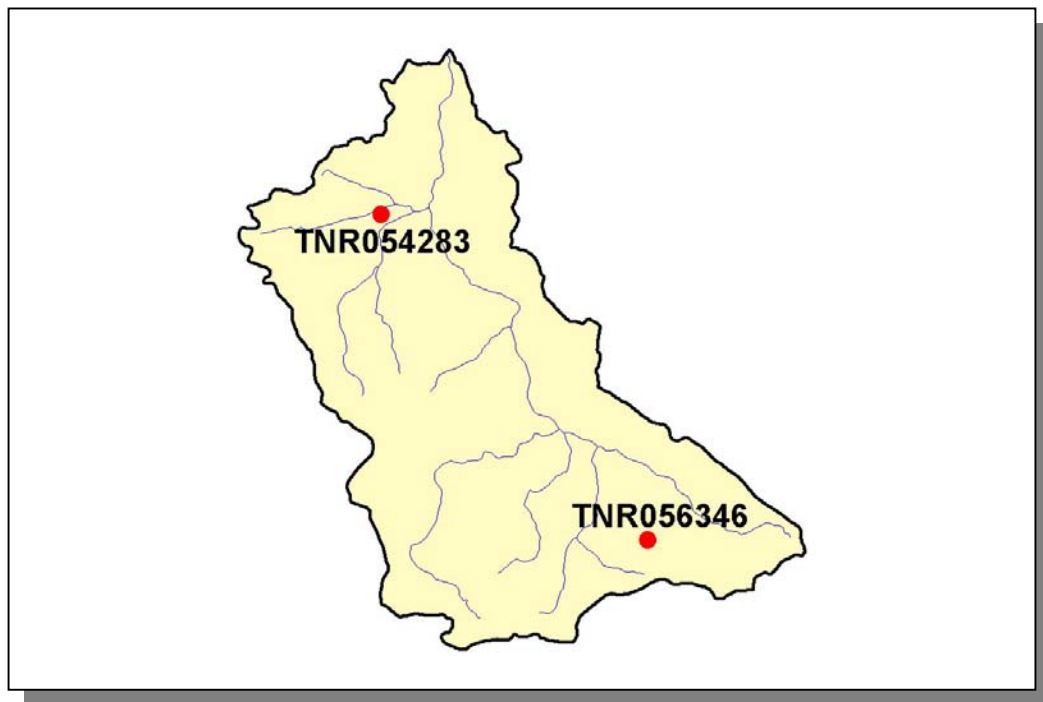


Figure 4-154. Location of TMSP Sites in Subwatershed 051302060505. More information, including the names of facilities, is provided in Appendix IV.

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4.2.D.v.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
847	1,802	131	<5	263	10

Table 4-118. Summary of Livestock Count Estimates in Subwatershed 051302060505. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Robertson	22,502	47,887	3,478	31	6,982	279

Table 4-119. Summary of Livestock Count Estimates in Robertson County. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Robertson	53.0	53.0	2.2	9.7

Table 4-120. Forest Acreage and Annual Removal Rates (1987-1994) in Robertson County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.67
Grass (Hayland)	0.37
Legumes, Grass (Hayland)	0.53
Legumes (Hayland)	0.73
Grass, Forbs, Legumes (Mixed Pasture)	0.42
Corn (Row Crops)	5.15
Soybeans (Row Crops)	10.03
Tobacco (Row Crops)	11.87
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	9.59
Conservation Reserve Program Lands	0.36
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.95

Table 4-121. Annual Estimated Total Soil Loss in Subwatershed 051302060505.

4.2.D.vi. 051302060506 (Sulphur Fork Creek).

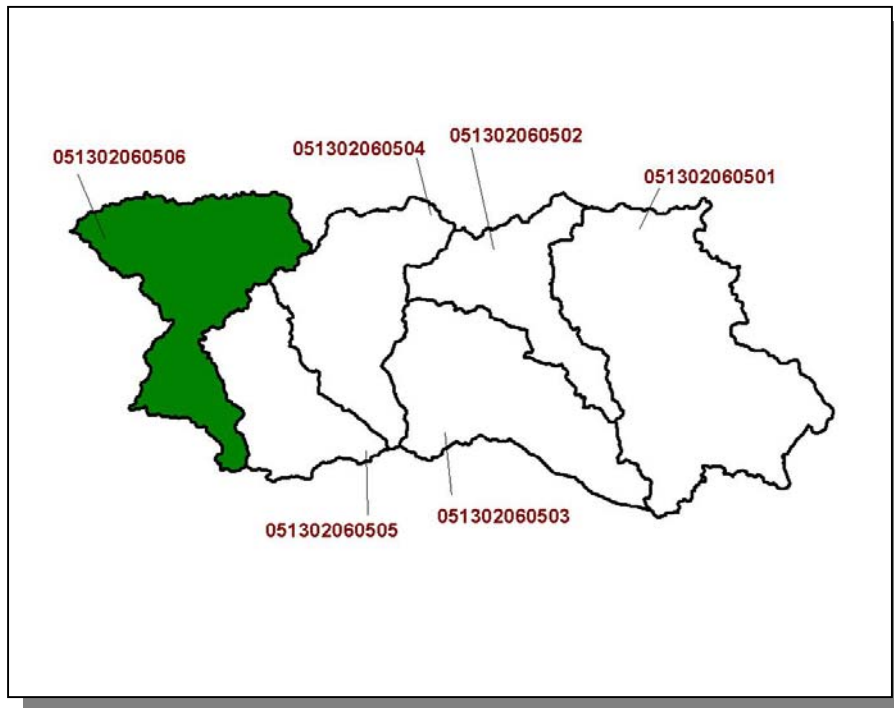


Figure 4-155. Location of Subwatershed 051302060506. All HUC-12 subwatershed boundaries are shown for reference.

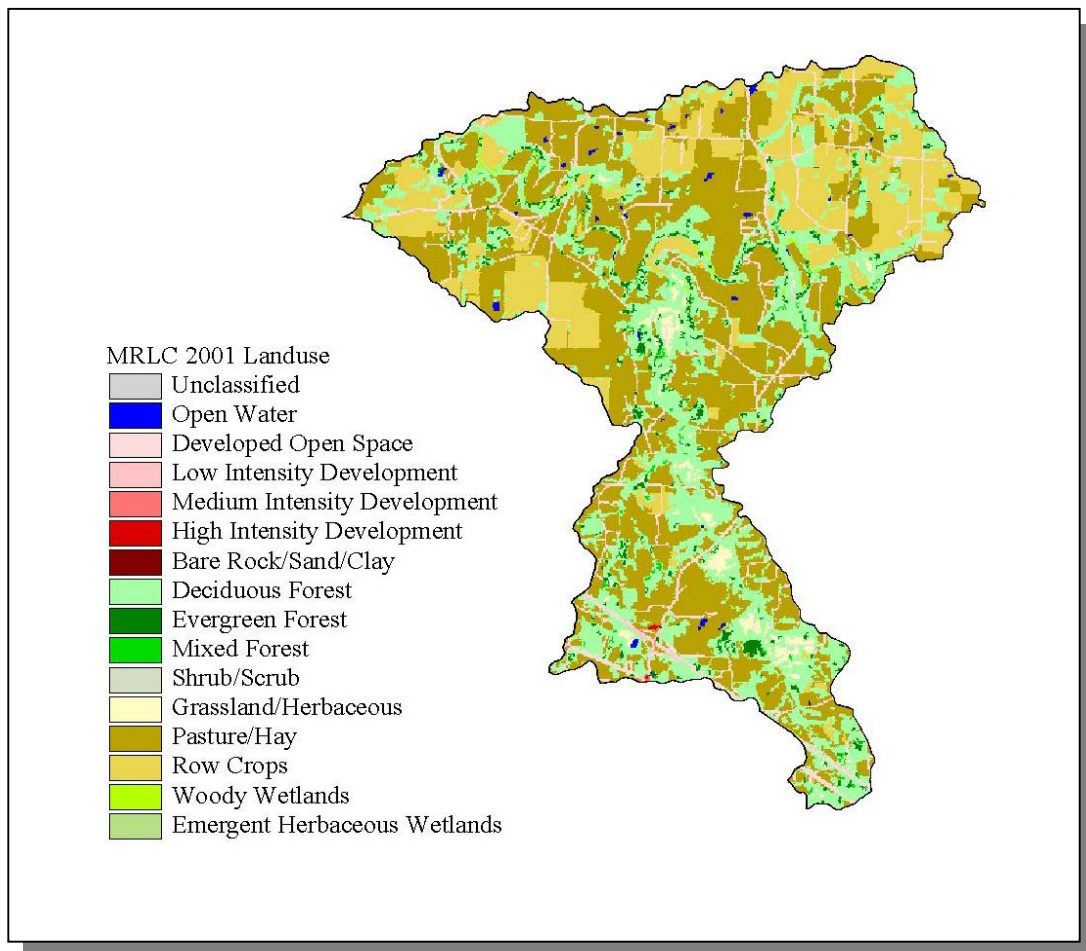


Figure 4-156. Illustration of Land Use Distribution in Subwatershed 051302060506.

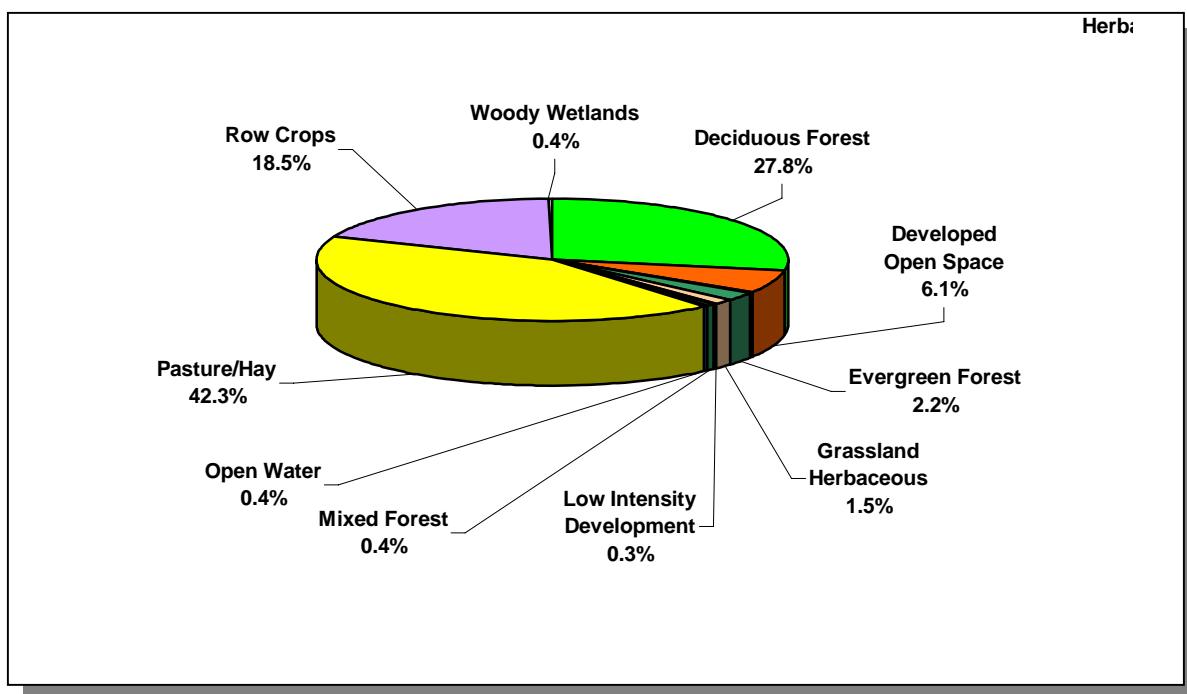


Figure 4-157. Land Use Distribution in Subwatershed 051302060506. More information is provided in Appendix IV.

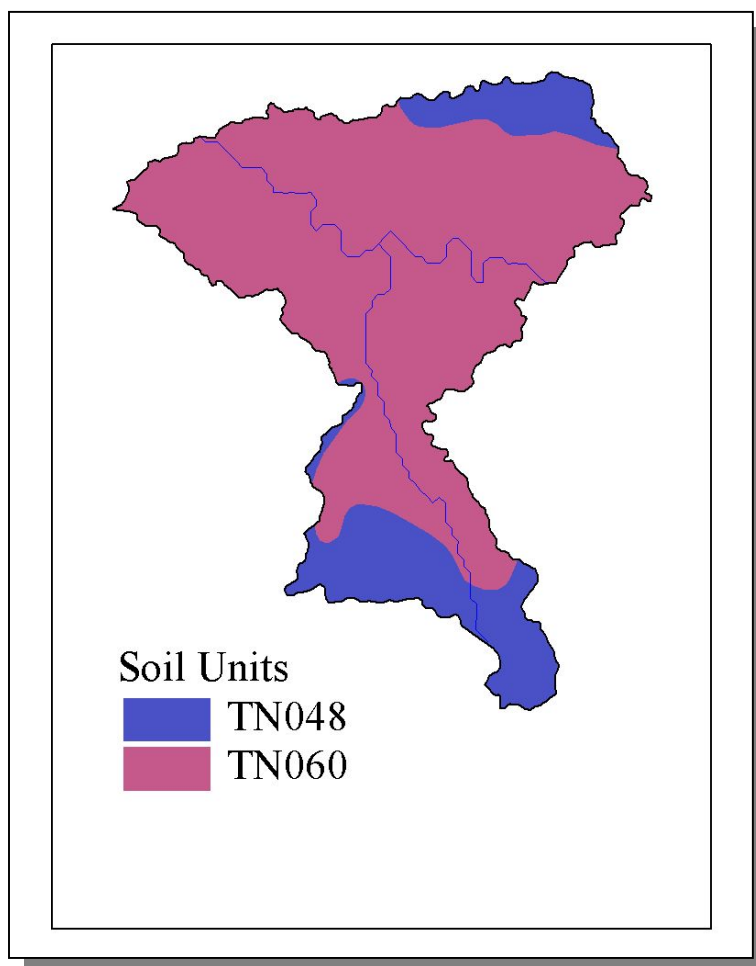


Figure 4-158. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060506.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN060	5.00	C	1.30	5.32	Silty Loam	0.39

Table 4-122. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060506. The definition of “Hydrologic Group” is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Cheatham	27,140	34,402	35,912	0.32	88	112	117	33.0
Montgomery	100,498	124,369	134,768	0.9	900	1,114	1,207	34.1
Robertson	41,494	51,533	54,433	6.49	2,694	3,345	3,534	31.2
Total	169,132	210,304	225,113		3,682	4,571	4,858	31.9

Table 4-123. Population Estimates in Subwatershed 051302060506.

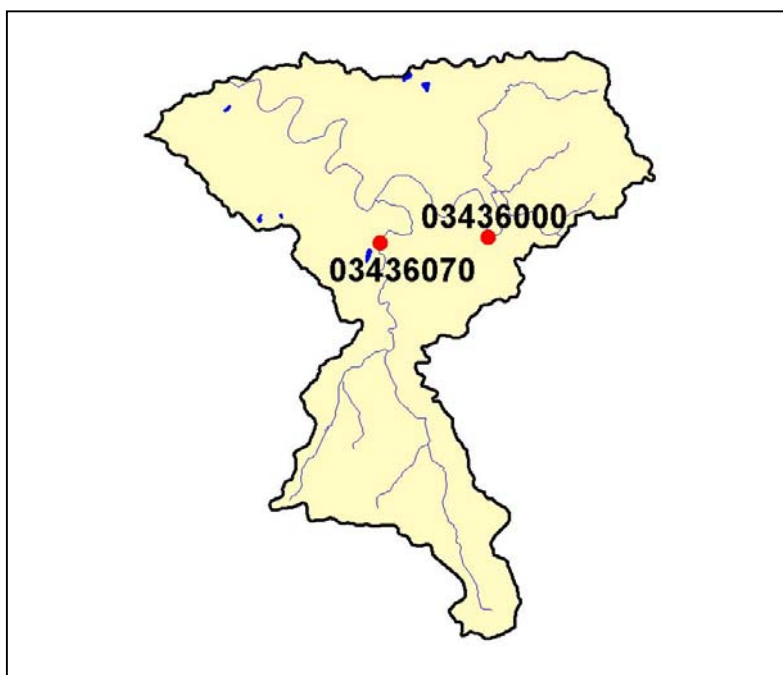


Figure 4-159. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060506. More information is provided in Appendix IV.

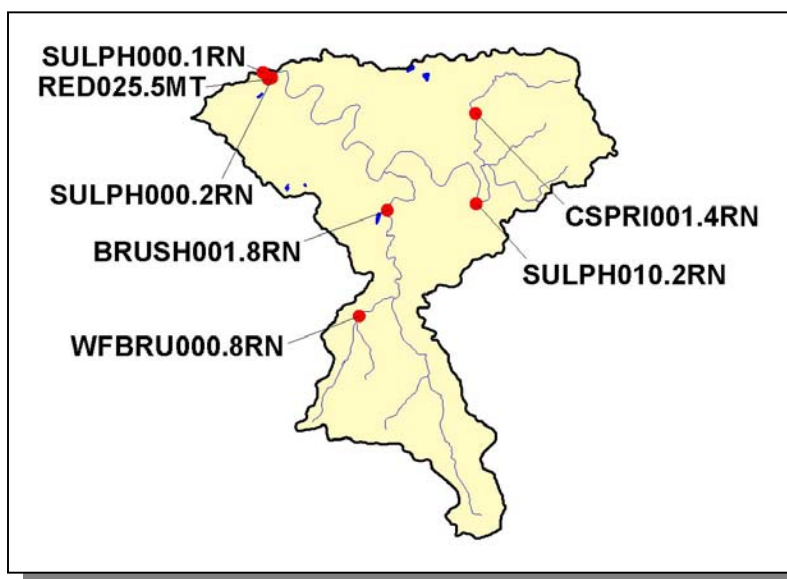


Figure 4-160. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060506. More information, including site names and locations and stations located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.D.vi.a. Point Source Contributions.

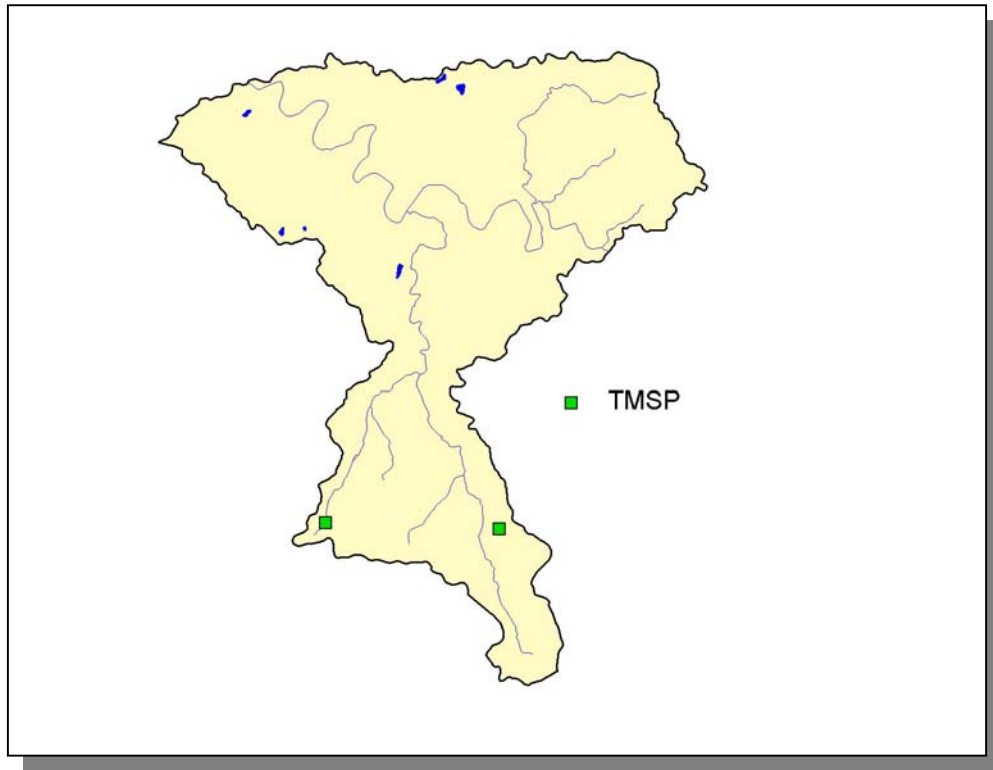


Figure 4-161. Location of Permits Issued in Subwatershed 051302060506. More information, including the names of facilities, is provided in Appendix IV.

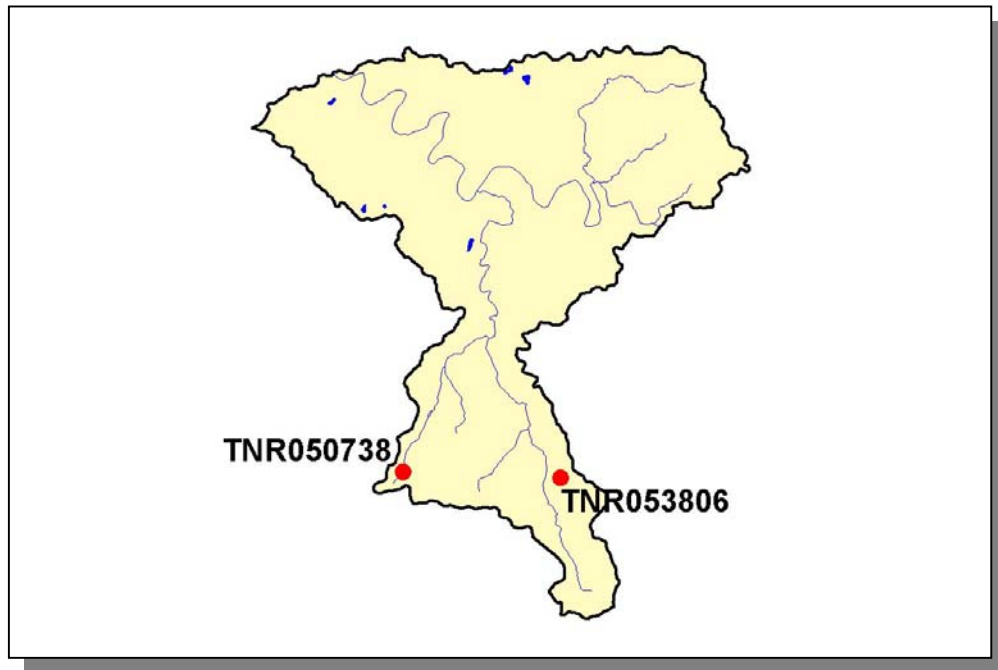


Figure 4-162. Location of TMSP Sites in Subwatershed 051302060506. More information, including the names of facilities, is provided in Appendix IV.

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4.2.D.vi.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
1,982	4,269	259	<5	532	22

Table 4-124. Summary of Livestock Count Estimates in Subwatershed 051302060506. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Cheatham	0	11,429	0	121	1,183	0
Montgomery	16,051	30,959	760	913	1,408	107
Robertson	22,502	47,887	3,478	31	6,982	279

Table 4-125. Summary of Livestock Count Estimates in Cheatham, Montgomery, and Robertson Counties. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Cheatham	118.2	118.2	2.3	8.4
Montgomery				
Robertson	53.0	53.0	2.2	9.7

Table 4-126. Forest Acreage and Annual Removal Rates (1987-1994) in Cheatham, Montgomery, and Robertson Counties.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.64
Grass (Hayland)	0.36
Legumes, Grass (Hayland)	0.51
Legumes (Hayland)	0.72
Grass, Forbs, Legumes (Mixed Pasture)	0.45
Corn (Row Crops)	5.61
Soybeans (Row Crops)	9.27
Tobacco (Row Crops)	13.25
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	9.32
Conservation Reserve Program Lands	0.37
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.81

Table 4-127. Annual Estimated Total Soil Loss in Subwatershed 051302060506.

4.2.E. 0513020606

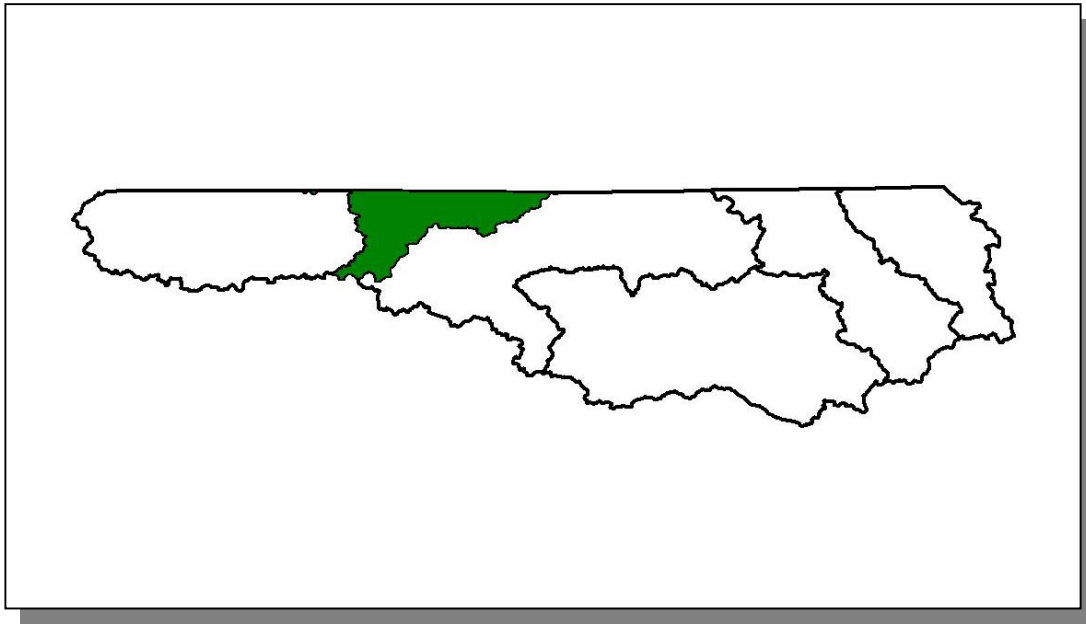


Figure 4-163. Location of Subwatershed 0513020606. All Red River HUC-10 subwatershed boundaries in Tennessee are shown for reference.

4.2.E.i. 051302060603 (West Fork Red River).

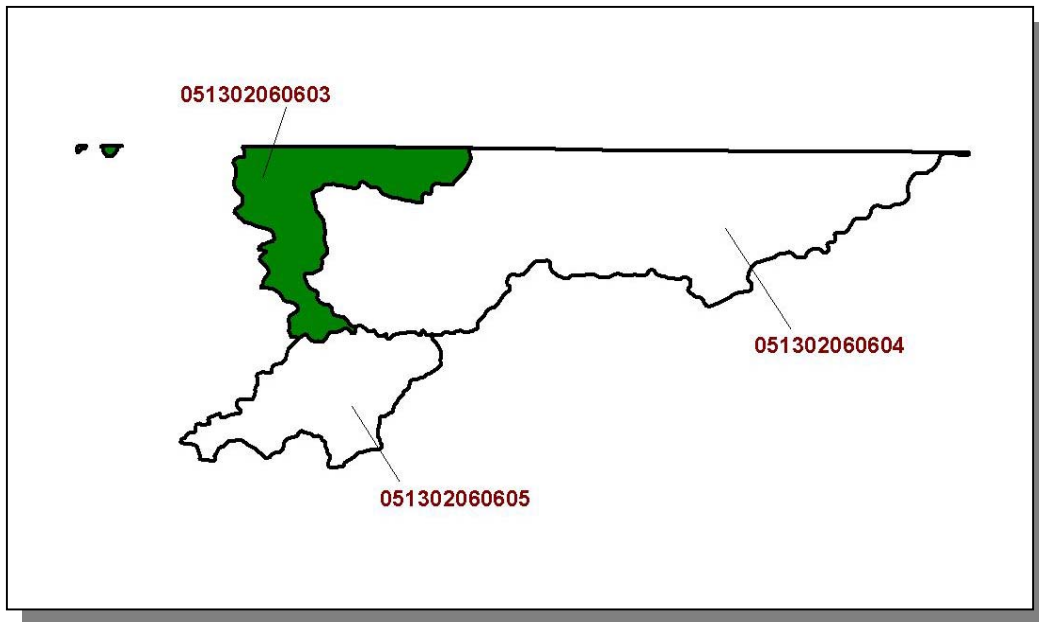


Figure 4-164. Location of Subwatershed 051302060603. All Red River HUC-12 subwatershed boundaries in Tennessee are shown for reference.

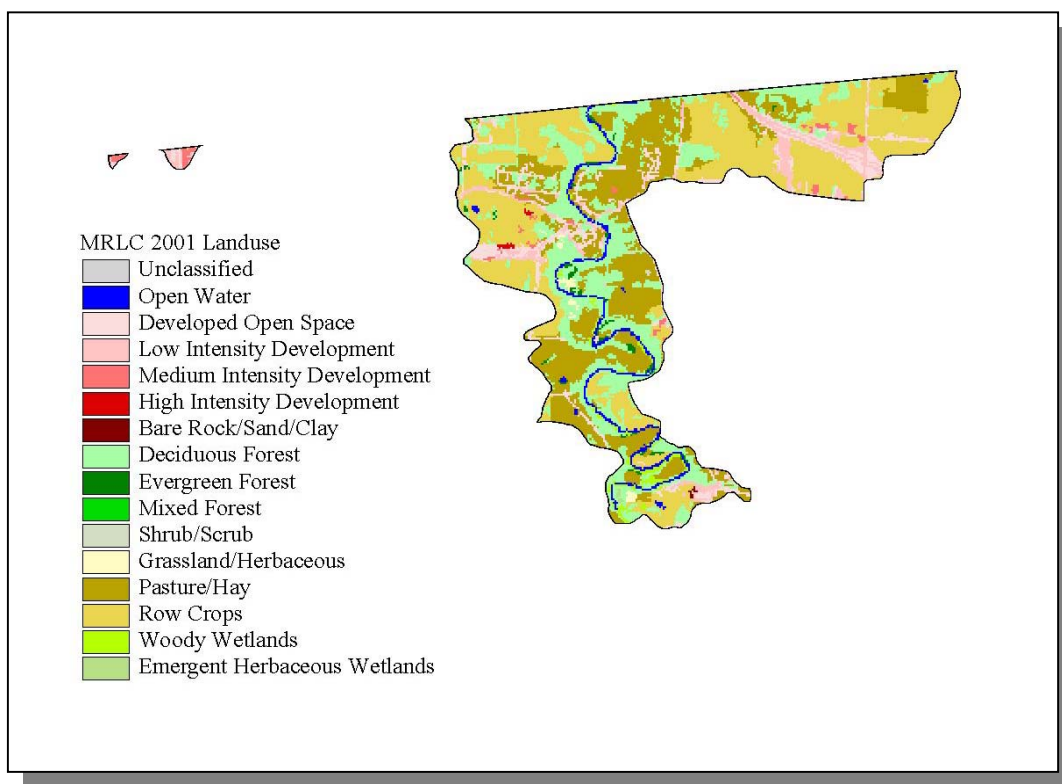


Figure 4-165. Illustration of Land Use Distribution in Subwatershed 051302060603.

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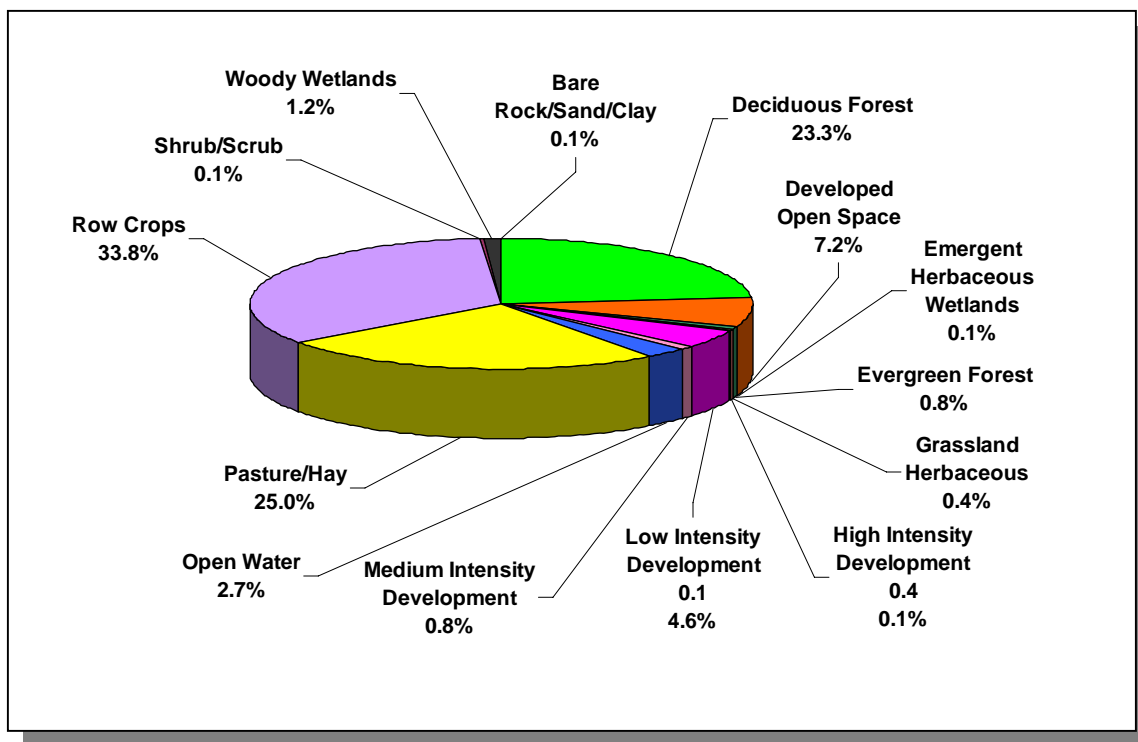


Figure 4-166. Land Use Distribution in Subwatershed 051302060603. More information is provided in Appendix IV.

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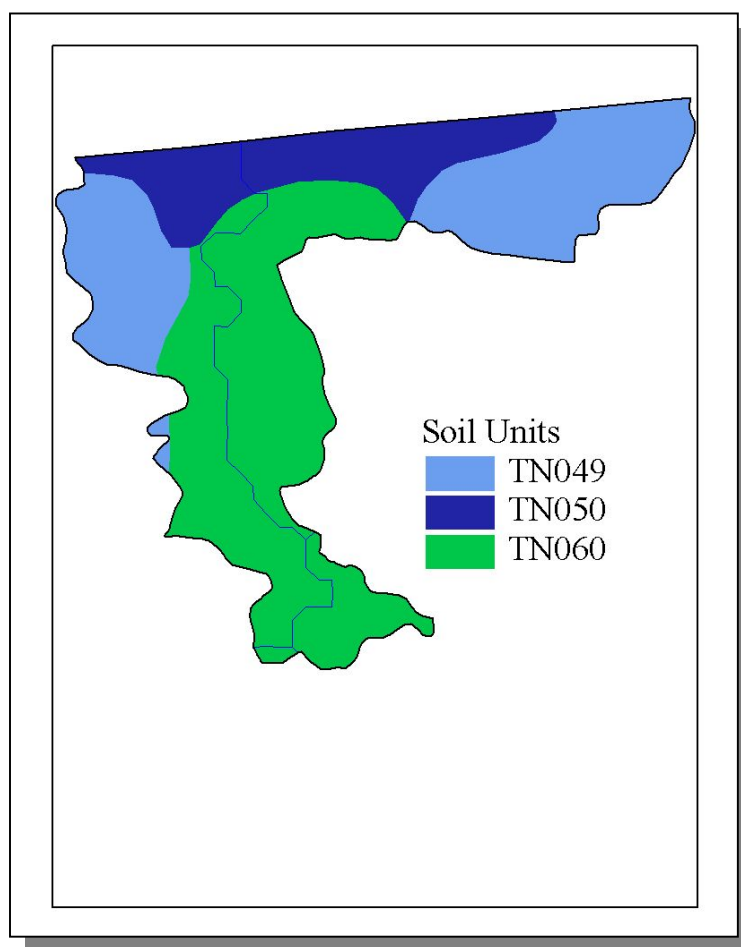


Figure 4-167. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060603.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN049	0.00	C	1.30	5.94	Silty Loam	0.34
TN050	0.00	B	1.30	5.97	Silty Loam	0.33
TN060	5.00	C	1.30	5.32	Silty Loam	0.39

Table 4-128. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060603. The definition of "Hydrologic Group" is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Montgomery	100,498	124,369	134,768	1.46	1,463	1,811	1,962	34.1

Table 4-129. Population Estimates in Subwatershed 051302060603.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Clarksville	Montgomery	75,494	27,642	23,610	3,956	76

Table 4-130. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060603.

4.2.E.i.a. Point Source Contributions.

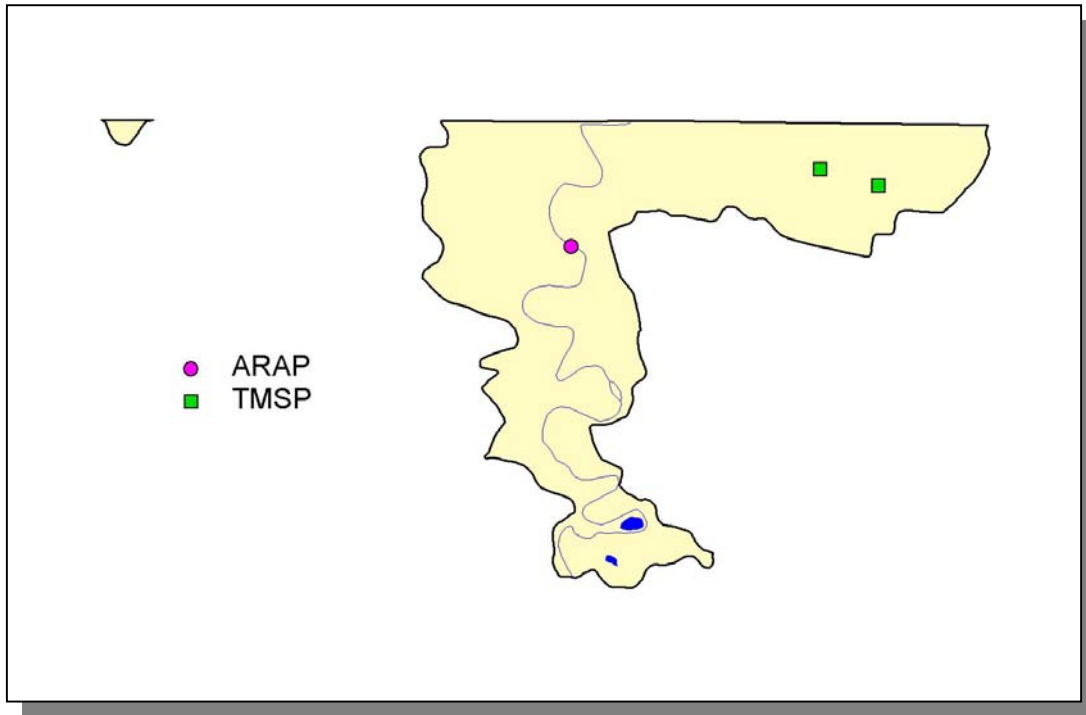


Figure 4-168. Location of Permits Issued in Subwatershed 051302060603. More information, including the names of facilities, is provided in Appendix IV.

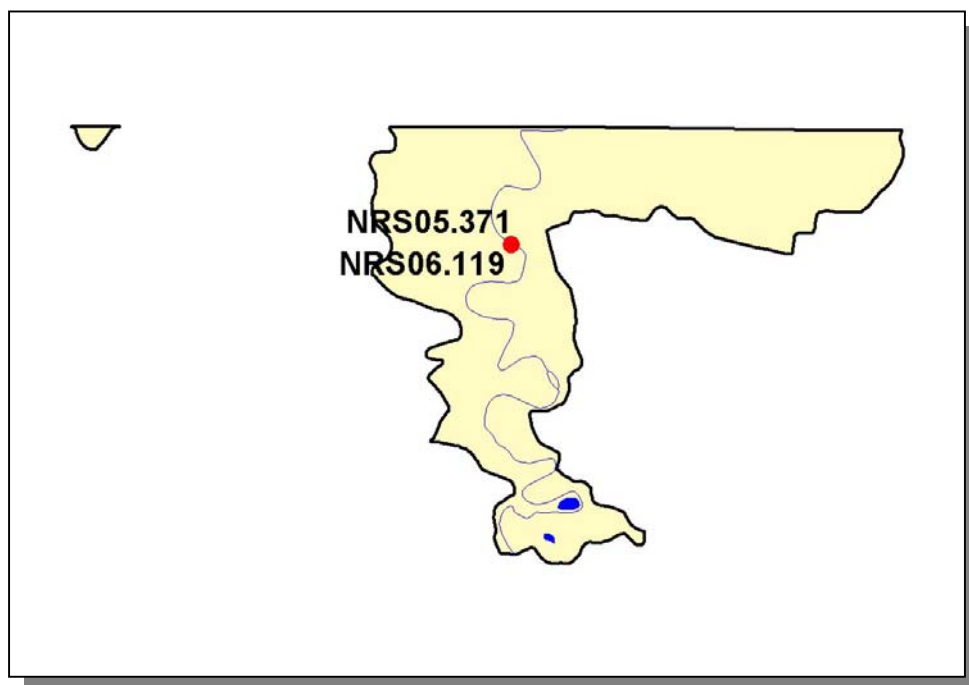


Figure 4-169. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060603. More information is provided in Appendix IV.

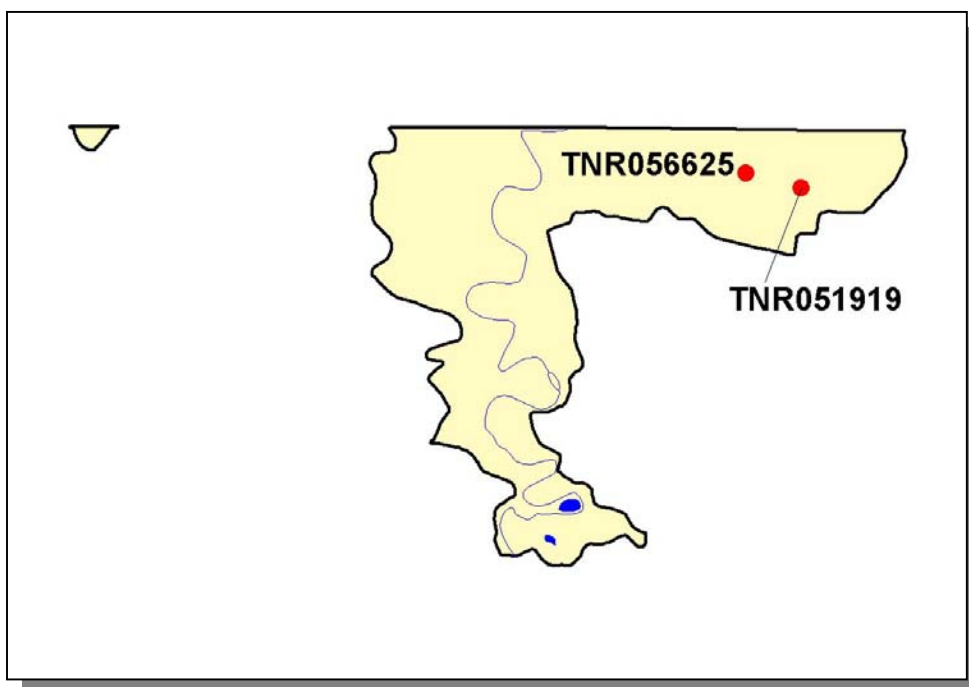


Figure 4-170. Location of TMSP Sites in Subwatershed 051302060603. More information, including the names of facilities, is provided in Appendix IV.

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4.2.E.i.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
495	955	23	<5	43	<5

Table 4-131. Summary of Livestock Count Estimates in Subwatershed 051302060603. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Montgomery	16,051	30,959	760	913	1,408	107

Table 4-132. Summary of Livestock Count Estimates in Montgomery County. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Montgomery				

Table 4-133. Forest Acreage and Annual Removal Rates (1987-1994) in Montgomery County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.45
Grass (Hayland)	0.29
Legumes, Grass (Hayland)	0.40
Grass, Forbs, Legumes (Mixed Pasture)	0.55
Corn (Row Crops)	8.04
Soybeans (Row Crops)	4.26
Tobacco (Row Crops)	22.25
Conservation Reserve Program Lands	0.41
Farmsteads and Ranch Headquarters	0.04

Table 4-134. Annual Estimated Total Soil Loss in Subwatershed 051302060603.

4.2.E.ii. 051302060604 (Spring Creek).

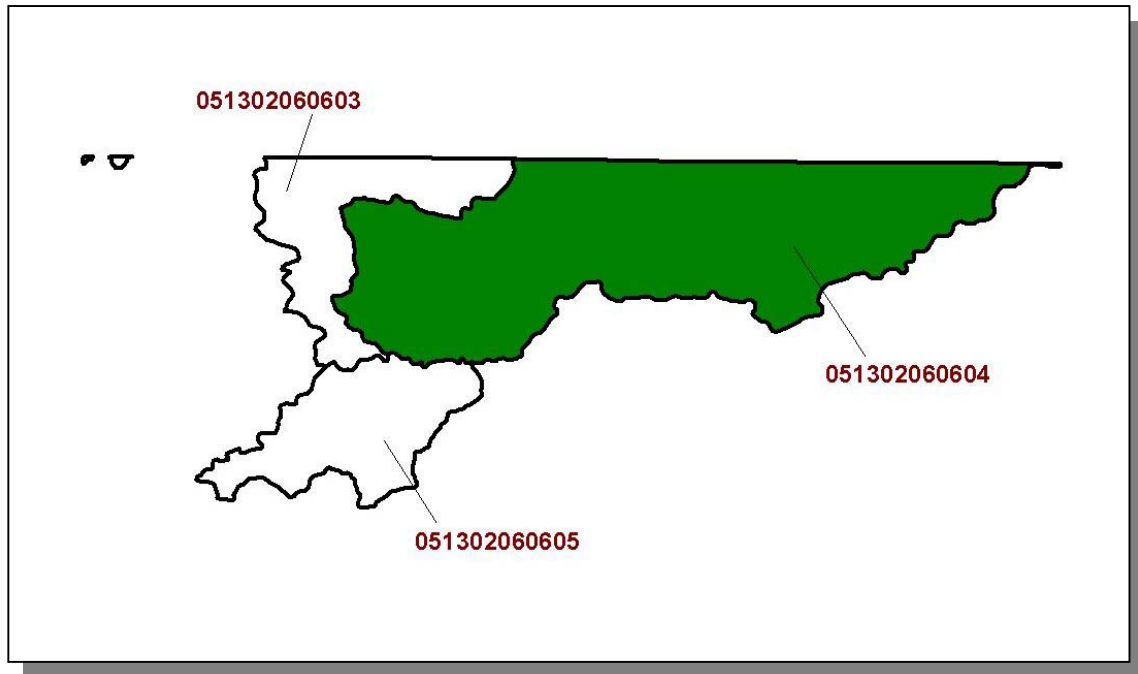


Figure 4-171. Location of Subwatershed 051302060604. All HUC-12 subwatershed boundaries are shown for reference.

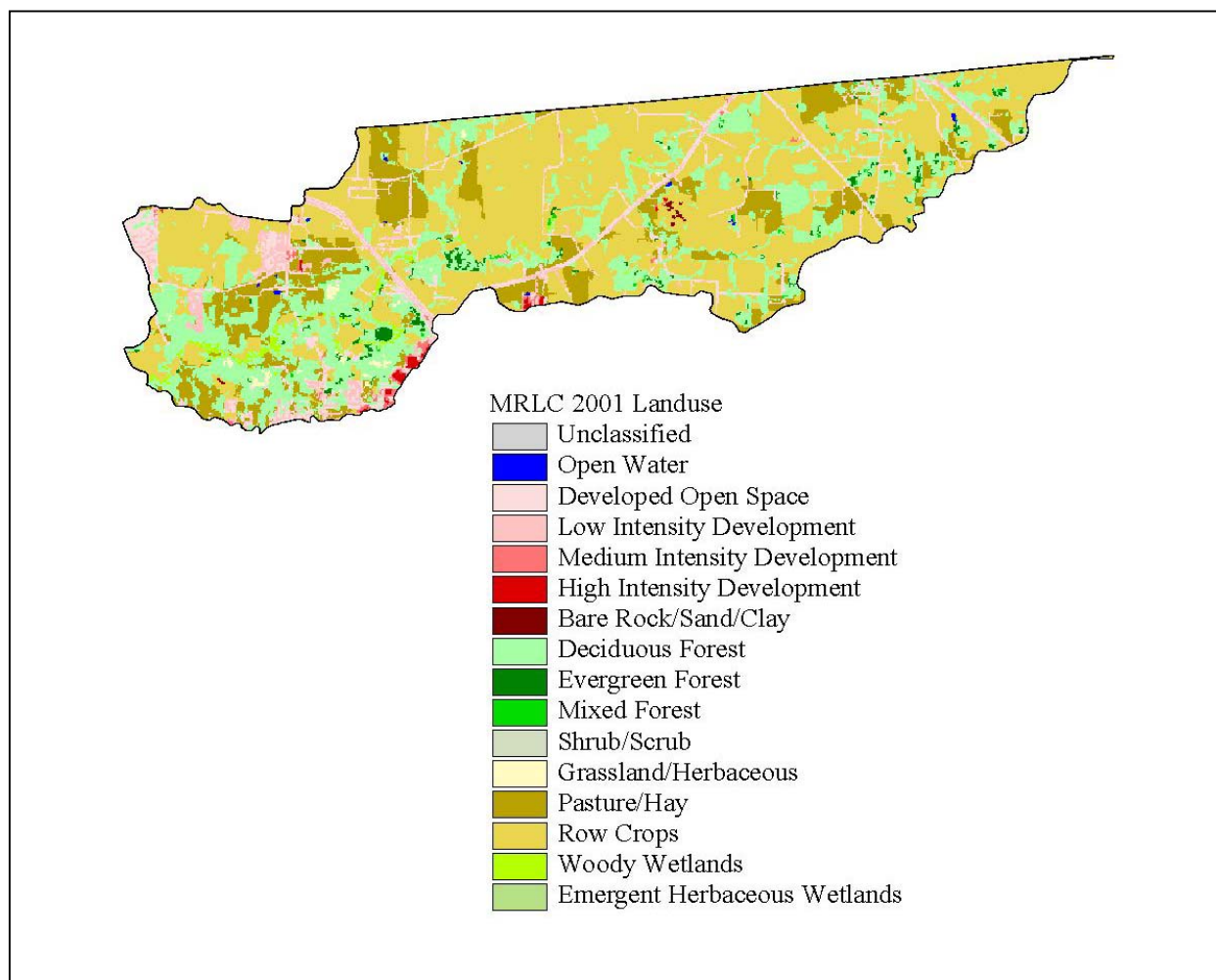


Figure 4-172. Illustration of Land Use Distribution in Subwatershed 051302060604.

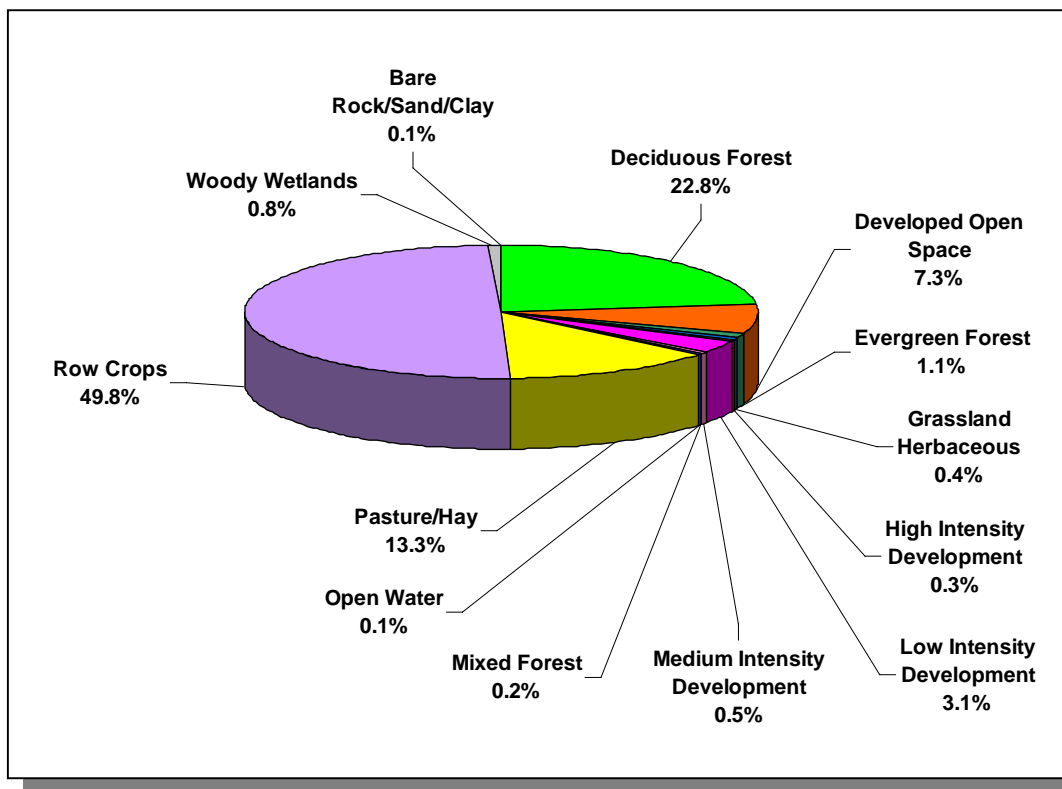


Figure 4-173. Land Use Distribution in Subwatershed 051302060604. More information is provided in Appendix IV.

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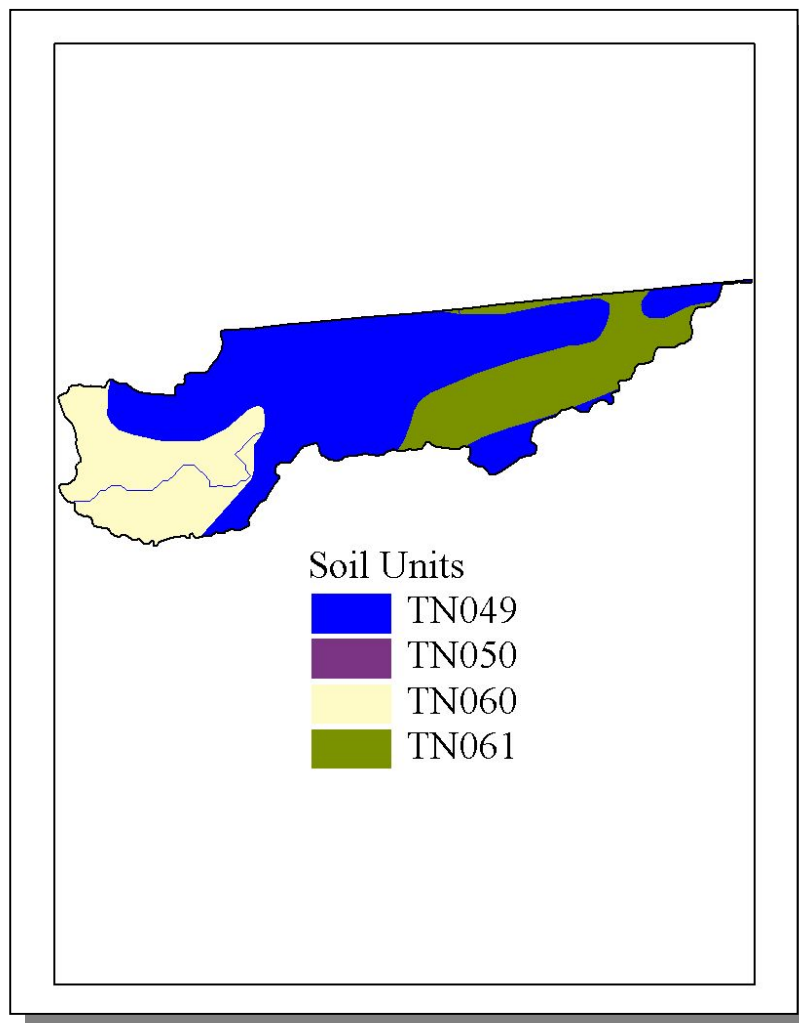


Figure 4-174. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060604.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN049	0.00	C	1.30	5.94	Silty Loam	0.34
TN050	0.00	B	1.30	5.97	Silty Loam	0.33
TN060	5.00	C	1.30	5.32	Silty Loam	0.39
TN061	50.00	B	1.30	5.09	Silty Loam	0.42

Table 4-135. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060604. The definition of "Hydrologic Group" is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Montgomery	100,498	124,369	134,768	5.86	5,887	7,286	7,895	34.1

Table 4-136. Population Estimates in Subwatershed 051302060604.

Populated Place	County	Population	NUMBER OF HOUSING UNITS			
			Total	Public Sewer	Septic Tank	Other
Clarksville	Montgomery	75,494	27,642	23,610	3,956	76

Table 4-137. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060604.

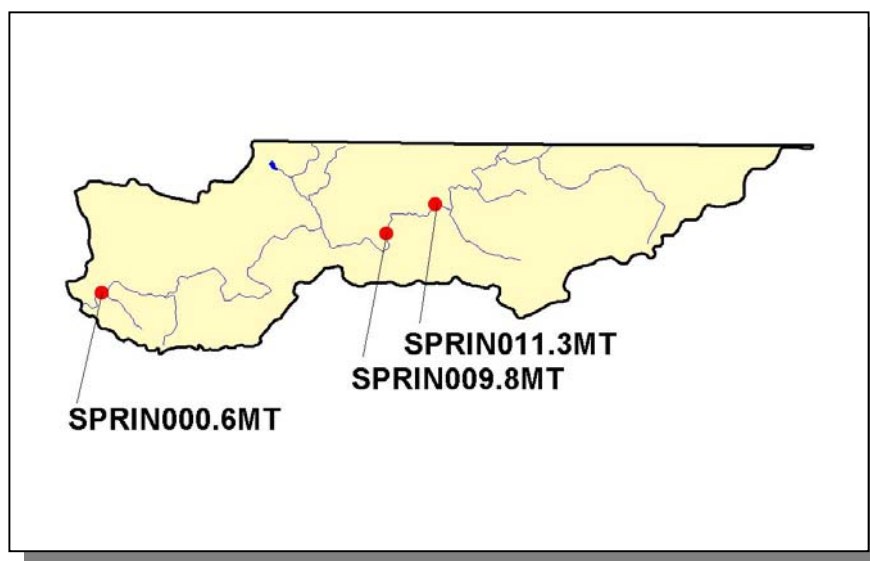


Figure 4-175. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060604. More information, including site names and locations and stations located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.E.ii.a. Point Source Contributions.

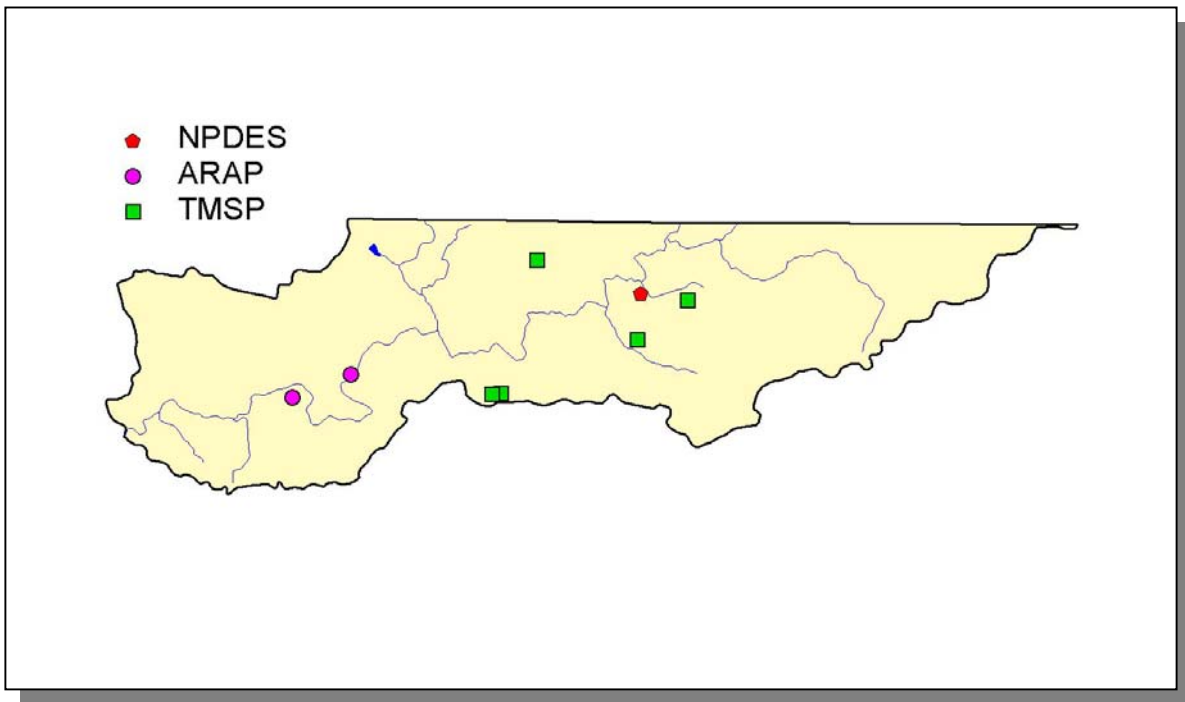


Figure 4-176. Location of Permits Issued in Subwatershed 051302060604. More information, including the names of facilities, is provided in Appendix IV.

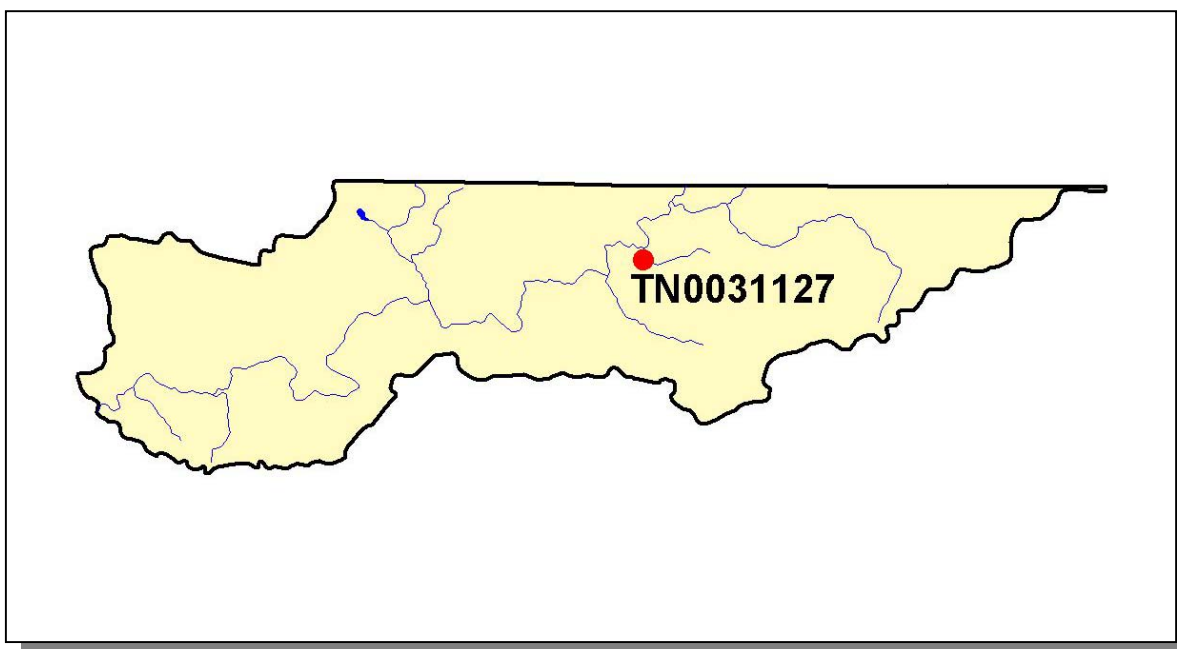


Figure 4-177. Location of Active NPDES Sites in Subwatershed 051302060604. More information, including the names of facilities, is provided in Appendix IV.

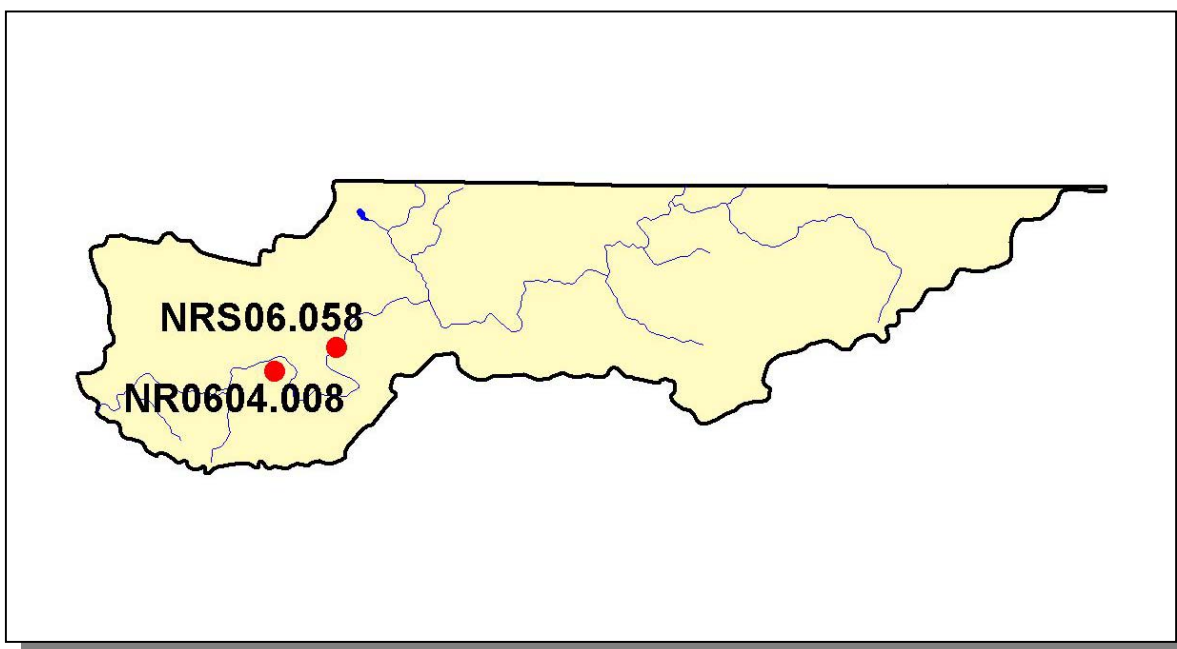


Figure 4-178. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060604. More information is provided in Appendix IV.

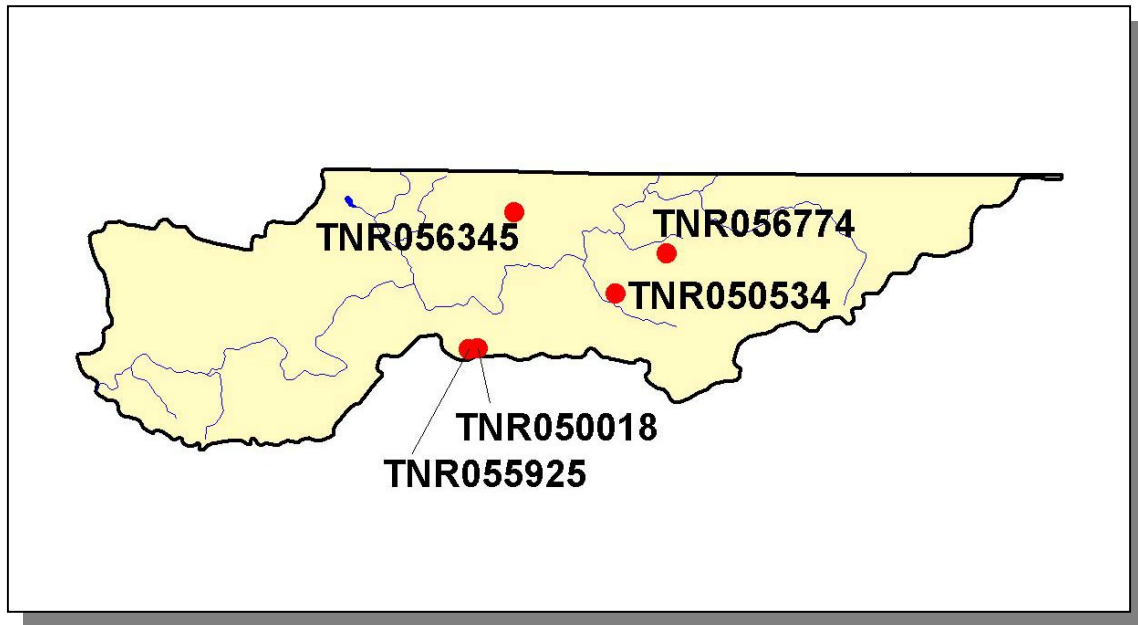


Figure 4-179. Location of TMSP Sites in Subwatershed 051302060604. More information, including the names of facilities, is provided in Appendix IV.

4.2.E.ii.a.i. Dischargers to Water Bodies Listed on the 2004 303(d) List

There is one NPDES facility discharging to water bodies listed on the 2004 303(d) list in Subwatershed 051302060604:

- TN0031127 (SIRCO) discharges to a wet weather conveyance to Spring Creek @ RM 11.5

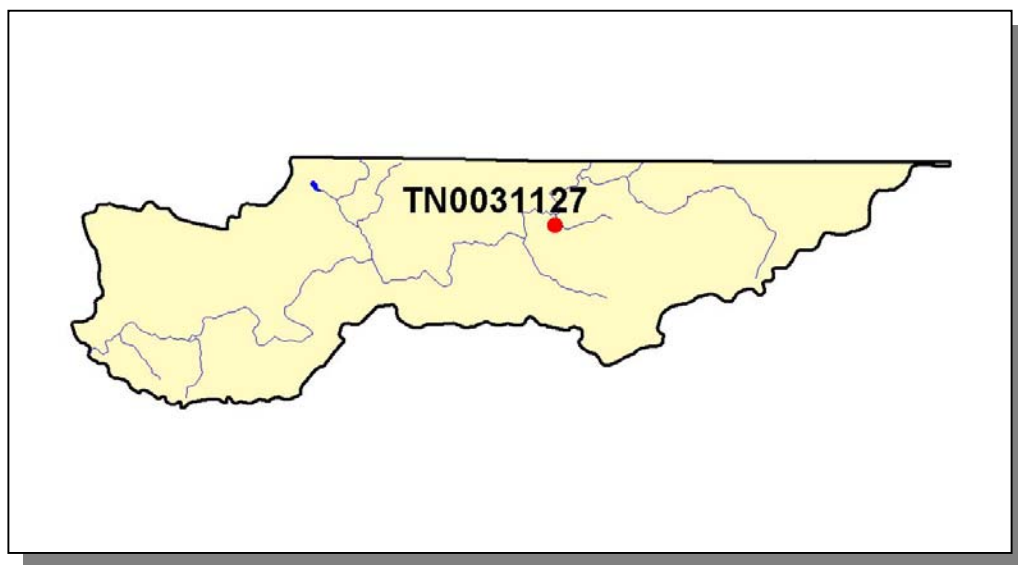


Figure 4-180. Location of NPDES Dischargers to Water Bodies Listed on the 2004 303(d) List in Subwatershed 051302060604. More information, including the names of facilities, is provided in Appendix IV.

PERMIT #	1Q10	3Q10	7Q10	3Q20	QDESIGN
TN0031127					

Table 4-138. Receiving Stream Flow Information for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060604. Data are in million gallons per day (MGD). Data were obtained from the USGS publication *Flow Duration and Low Flows of Tennessee Streams Through 1992* or from permit files.

PERMIT #	FLOW
TN0031127	X

Table 4-139. Monitoring Requirements for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060604.

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4.2.E.ii.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
1,551	2,991	73	<5	136	10

Table 4-140. Summary of Livestock Count Estimates in Subwatershed 051302060604. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Montgomery	16,051	30,959	760	913	1,408	107
Robertson	22,502	47,887	3,478	31	6,982	279

Table 4-141. Summary of Livestock Count Estimates in Montgomery and Robertson Counties. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Montgomery				
Robertson	53.0	53.0	2.2	9.7

Table 4-142. Forest Acreage and Annual Removal Rates (1987-1994) in Montgomery and Robertson Counties.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.45
Grass (Hayland)	0.29
Legumes, Grass (Hayland)	0.40
Legumes (Hayland)	0.73
Grass, Forbs, Legumes (Mixed Pasture)	0.55
Corn (Row Crops)	8.04
Soybeans (Row Crops)	4.26
Tobacco (Row Crops)	22.25
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	9.59
Conservation Reserve Program Lands	0.41
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.04

Table 4-143. Annual Estimated Total Soil Loss in Subwatershed 051302060604.

4.2.E.iii. 051302060605 (West Fork Red River).

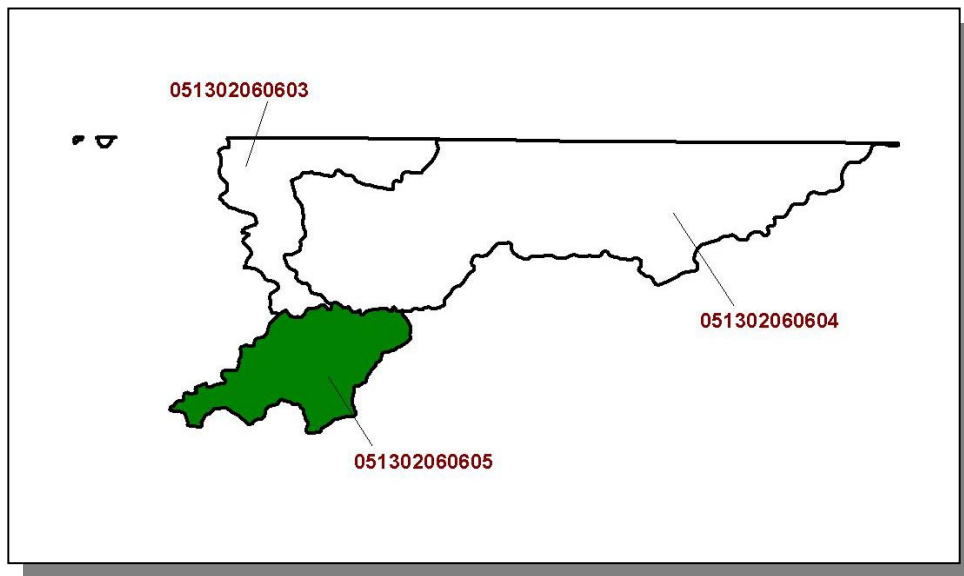


Figure 4-181. Location of Subwatershed 051302060605. All Red River HUC-12 subwatershed boundaries in Tennessee are shown for reference.

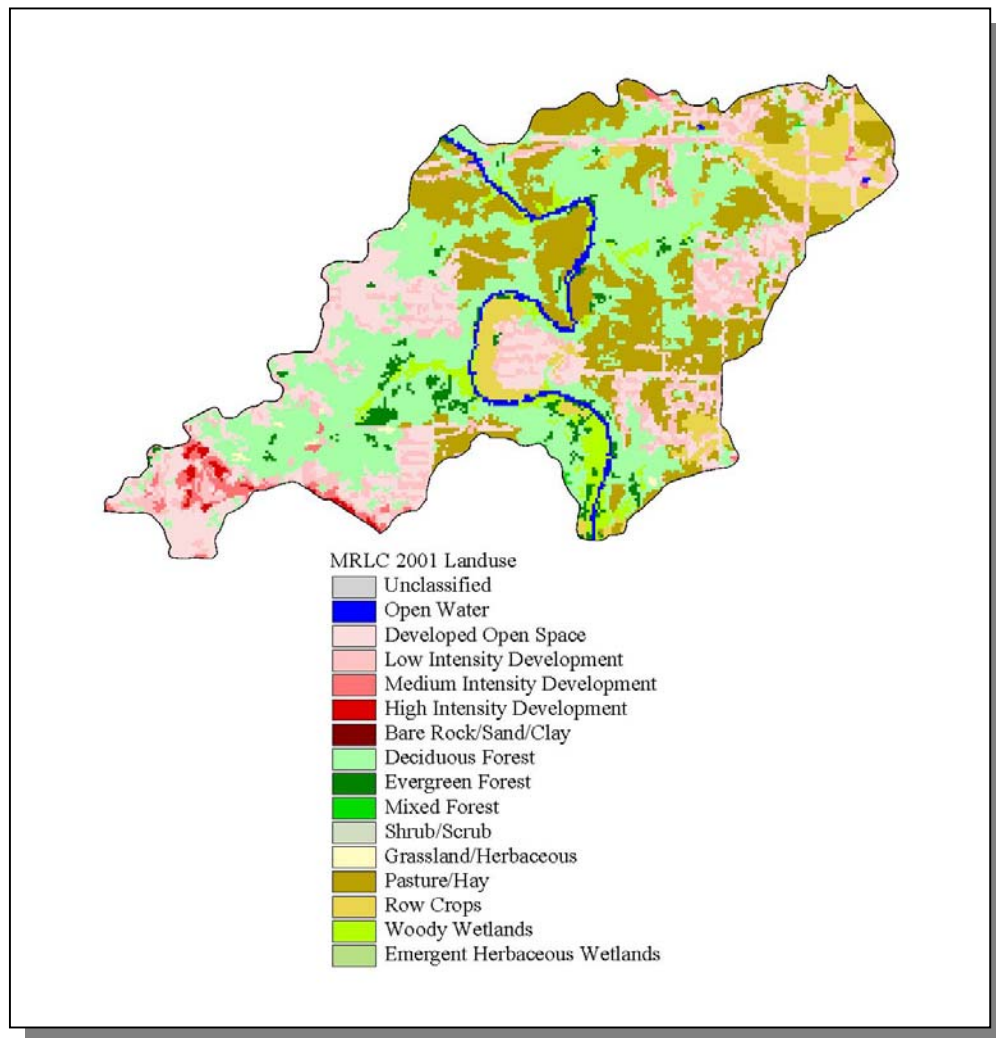


Figure 4-182. Illustration of Land Use Distribution in Subwatershed 051302060605.

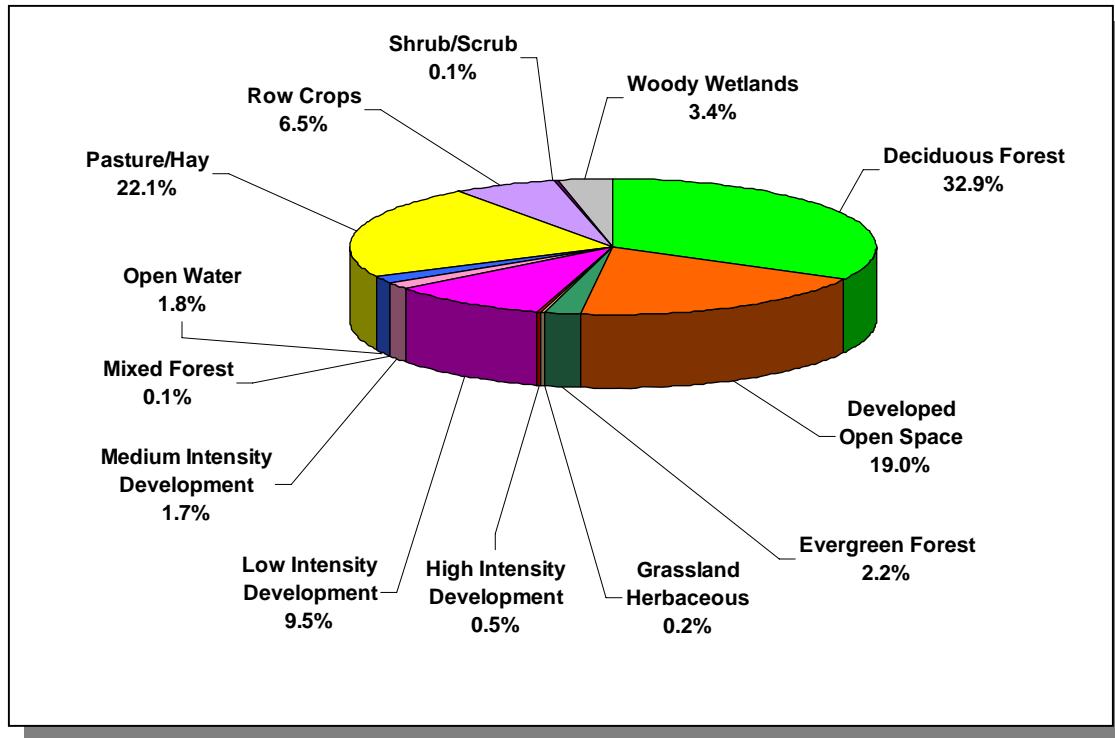


Figure 4-183. Land Use Distribution in Subwatershed 051302060605. More information is provided in Appendix IV.

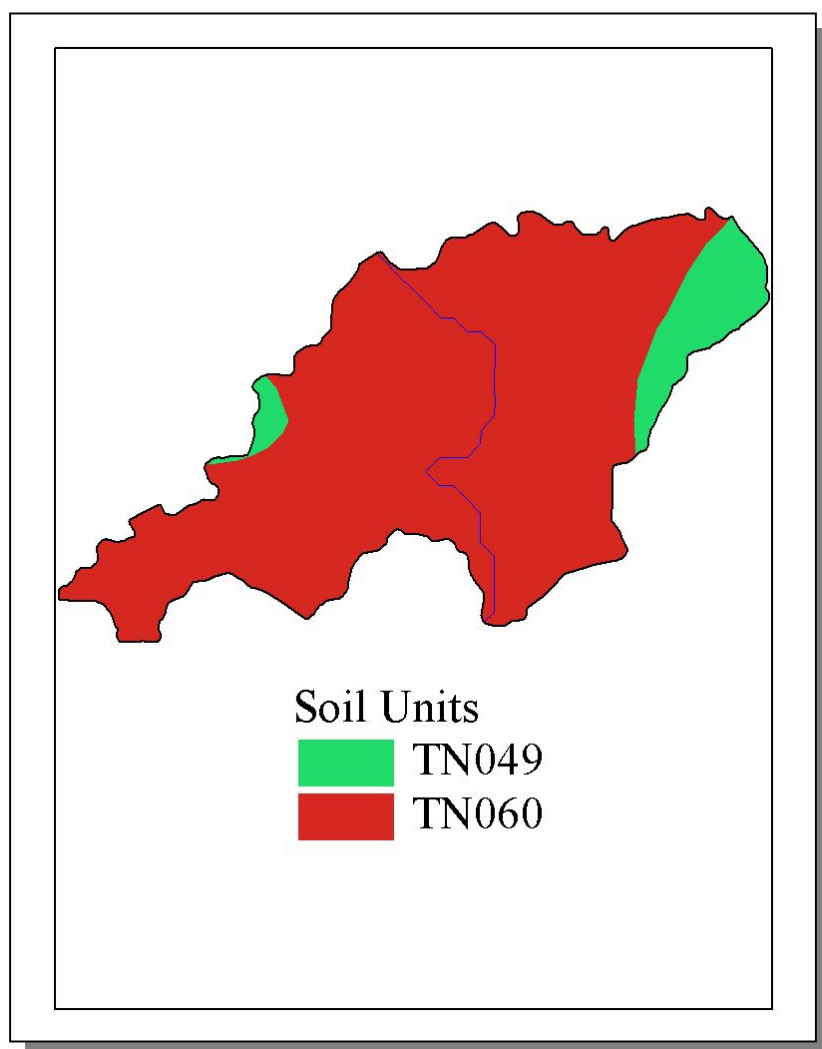


Figure 4-184. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060605.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN049	0.00	B	1.30	5.94	Silty Loam	0.34
TN060	5.00	B	1.30	5.32	Silty Loam	0.39

Table 4-144. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060605. The definition of “Hydrologic Group” is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Montgomery	100,498	124,369	134,768	1.5	1,512	1,871	2,028	34.1

Table 4-145. Population Estimates in Subwatershed 051302060605.

Populated Place	County	Population	NUMBER OF HOUSING UNITS			
			Total	Public Sewer	Septic Tank	Other
Clarksville	Montgomery	75,494	27,642	23,610	3,956	76

Table 4-146. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060605.

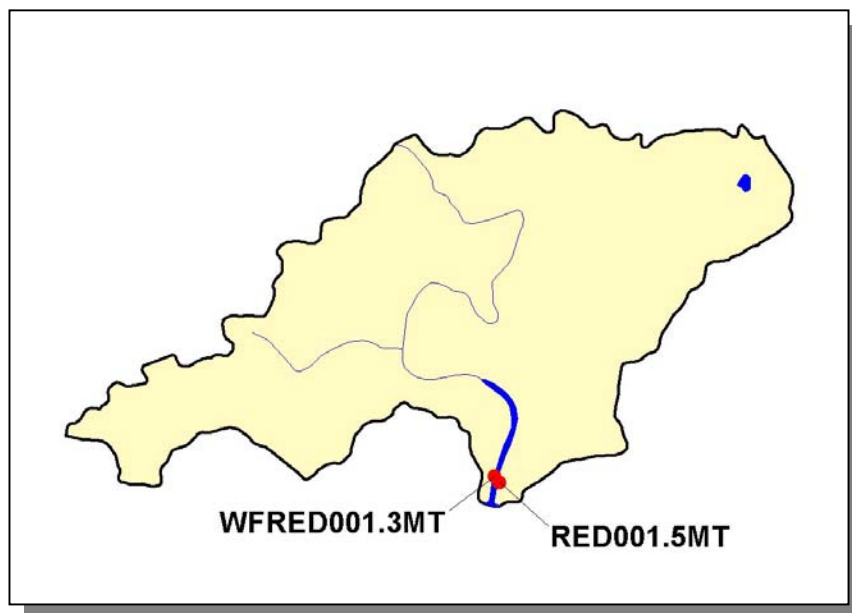


Figure 4-185. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060605. More information, including site names and locations and stations located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.E.iii.a. Point Source Contributions.

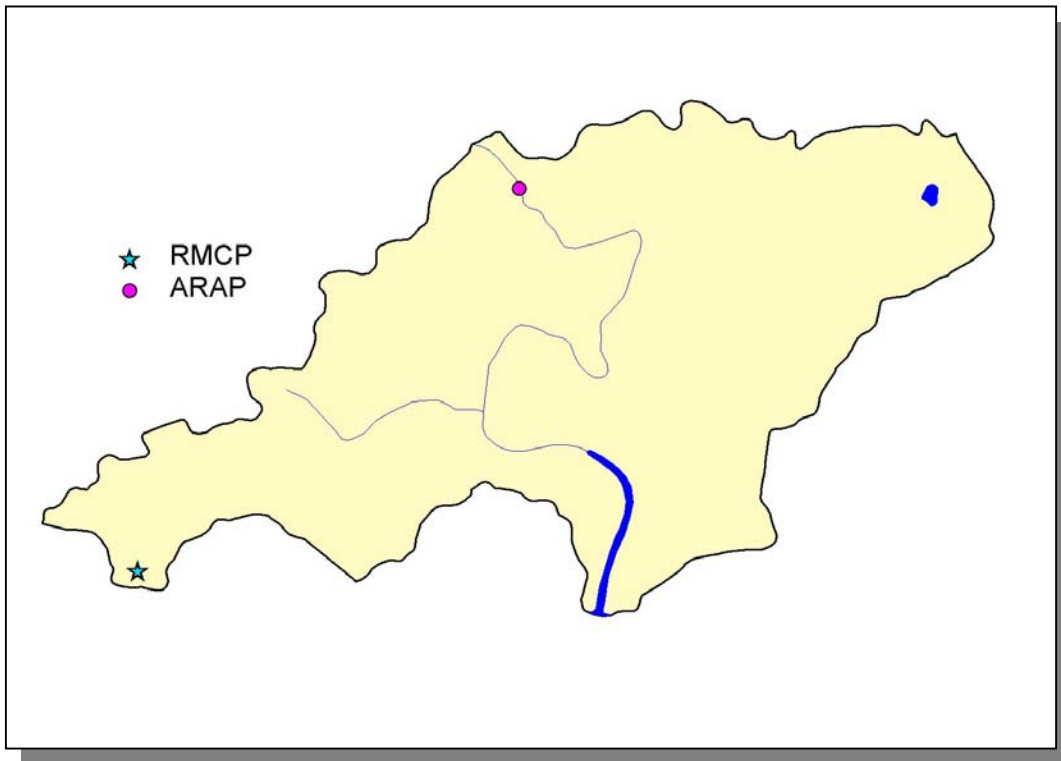


Figure 4-186. Location of Permits Issued in Subwatershed 051302060605. More information, including the names of facilities, is provided in Appendix IV.

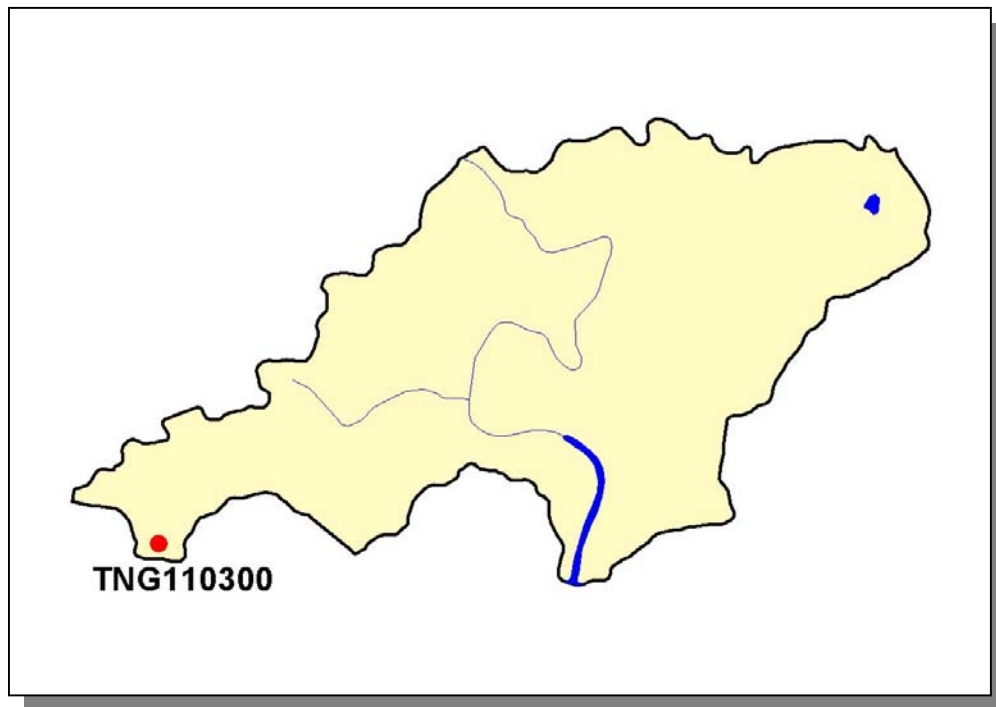


Figure 4-187. Location of Ready Mix Concrete Plants (RMCP) in Subwatershed 051302060605. More information is provided in Appendix IV.

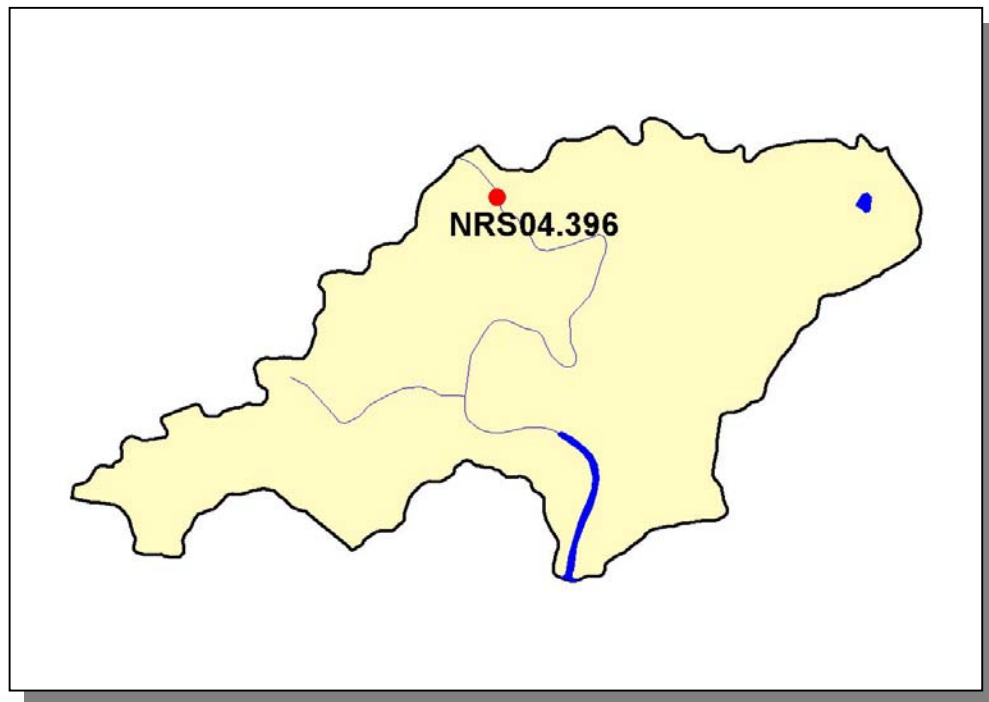


Figure 4-188. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060605. More information is provided in Appendix IV.

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4.2.E.iii.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS				
Beef Cow	Cattle	Milk Cow	Hogs	Sheep
245	473	12	22	<5

Table 4-147. Summary of Livestock Count Estimates in Subwatershed 051302060605. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Montgomery	16,051	30,959	760	913	1,408	107

Table 4-148. Summary of Livestock Count Estimates in Montgomery County. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Montgomery				

Table 4-149. Forest Acreage and Annual Removal Rates (1987-1994) in Montgomery County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.45
Grass (Hayland)	0.29
Legumes, Grass (Hayland)	0.40
Grass, Forbs, Legumes (Mixed Pasture)	0.55
Corn (Row Crops)	8.04
Soybeans (Row Crops)	4.26
Tobacco (Row Crops)	22.25
Conservation Reserve Program Lands	0.41
Farmsteads and Ranch Headquarters	0.04

Table 4-150. Annual Estimated Total Soil Loss in Subwatershed 051302060605.

4.2.F. 0513020607.

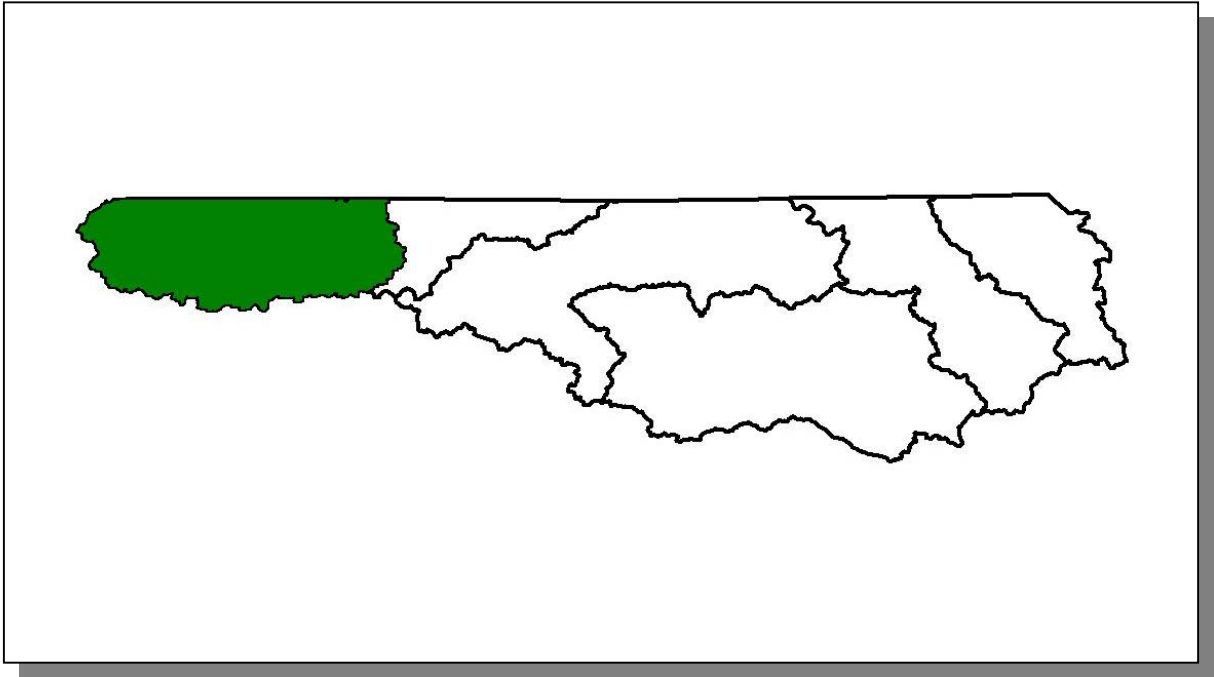


Figure 4-189. Location of Subwatershed 0513020607. All Red River HUC-10 subwatershed boundaries in Tennessee are shown for reference.

4.2.F.i. 051302060701 (Noahs Spring Branch).

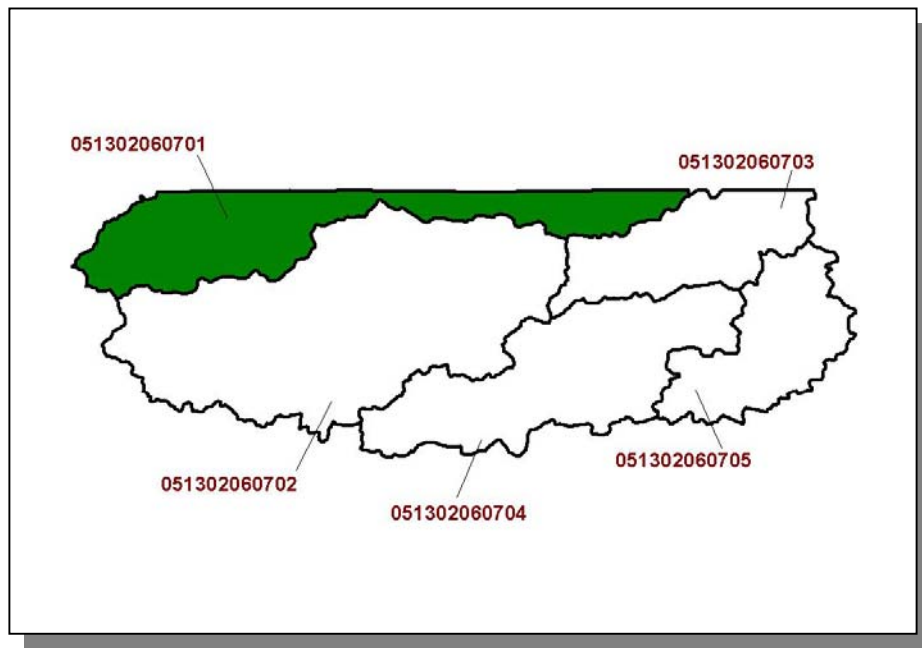


Figure 4-190. Location of Subwatershed 051302060701. All HUC-12 subwatershed boundaries are shown for reference.

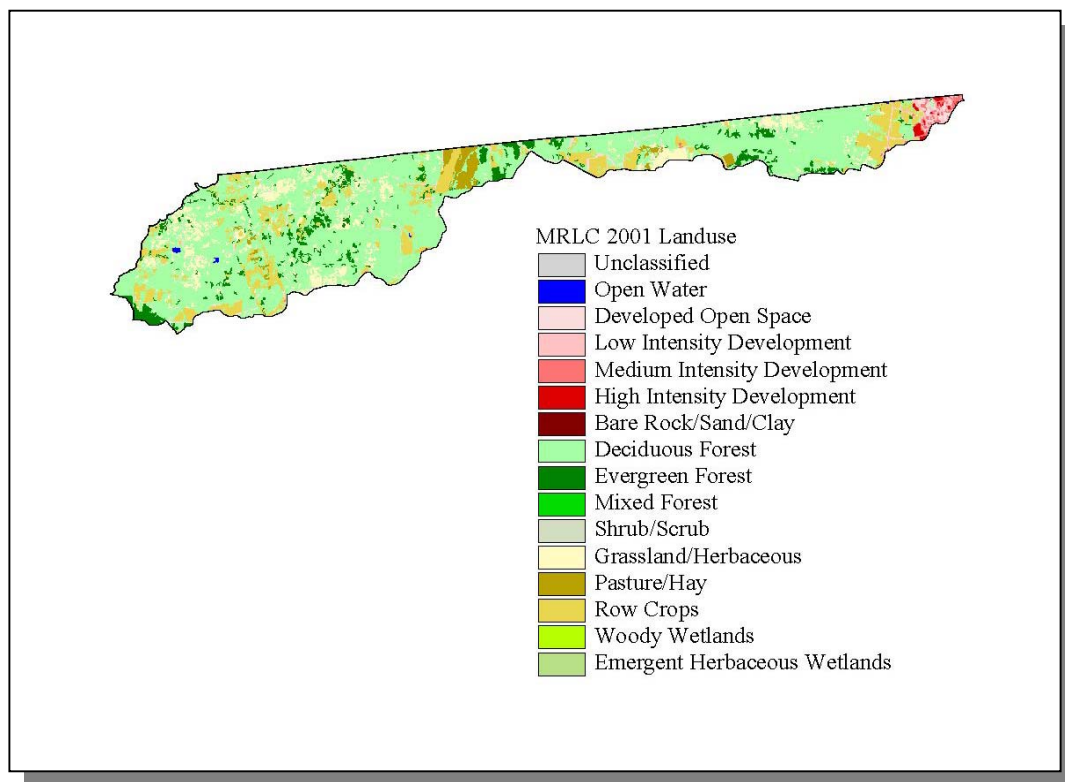


Figure 4-191. Illustration of Land Use Distribution in Subwatershed 051302060701.

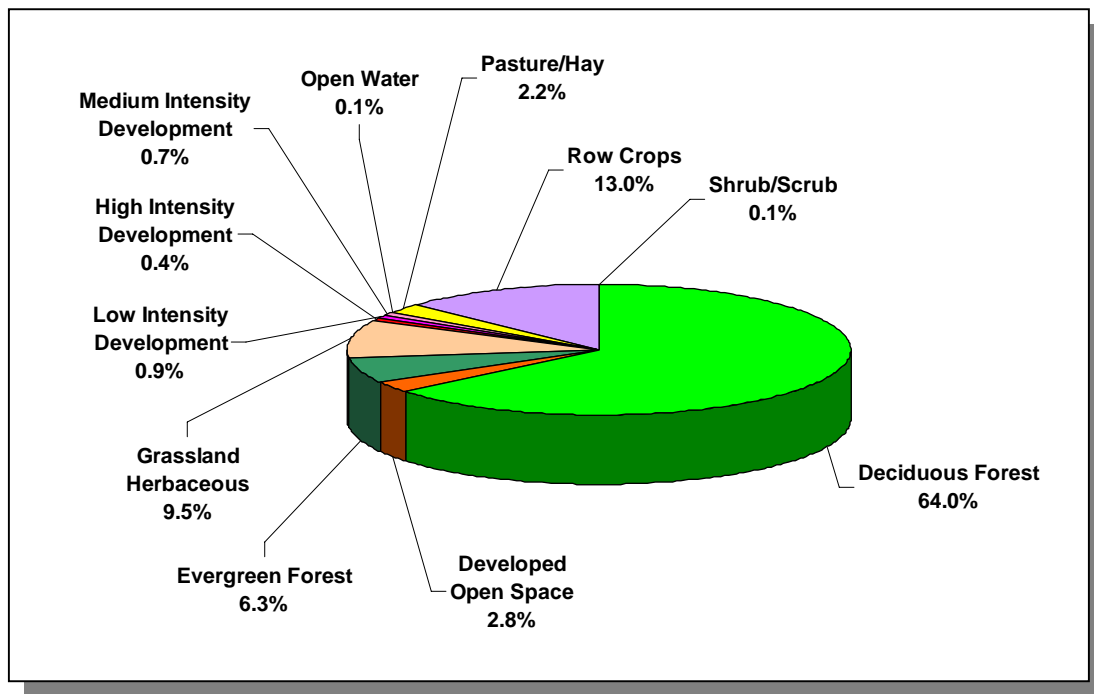


Figure 4-192. Land Use Distribution in Subwatershed 051302060701. More information is provided in Appendix IV.

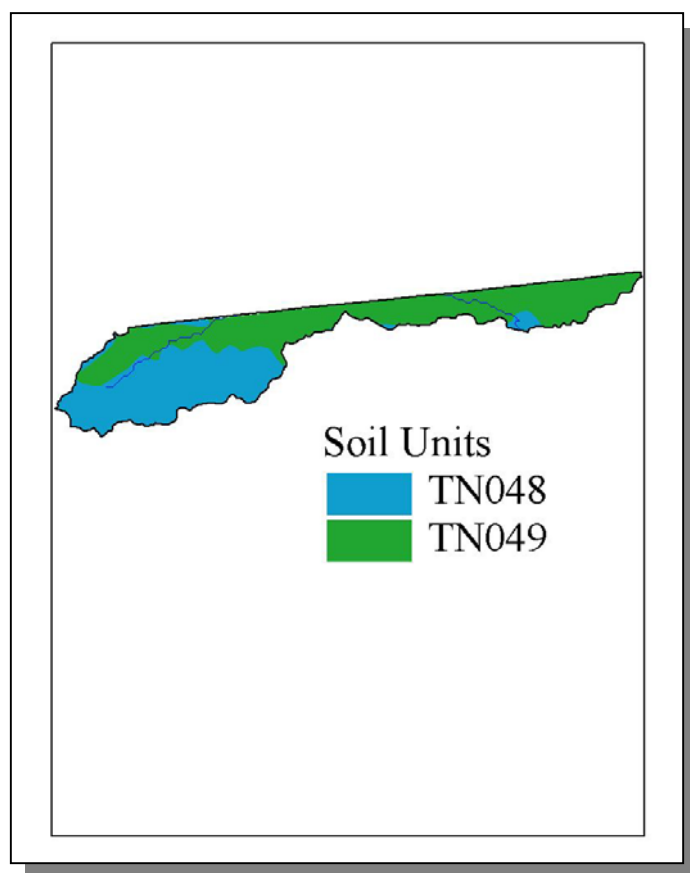


Figure 4-193. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060701.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN049	0.00	C	1.30	5.94	Silty Loam	0.34

Table 4-151. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060701. The definition of “Hydrologic Group” is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Montgomery	100,498	124,369	134,768	1.6	1,608	1,990	2,157	34.1
Stewart	9,479	11,241	12,370	2.98	282	335	368	30.5
Total	109,977	135,610	147,138		1,890	2,325	2,525	33.6

Table 4-152. Population Estimates in Subwatershed 051302060701.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Clarksville	Montgomery	75,494	27,642	23,610	3,956	76

Table 4-153. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060701.

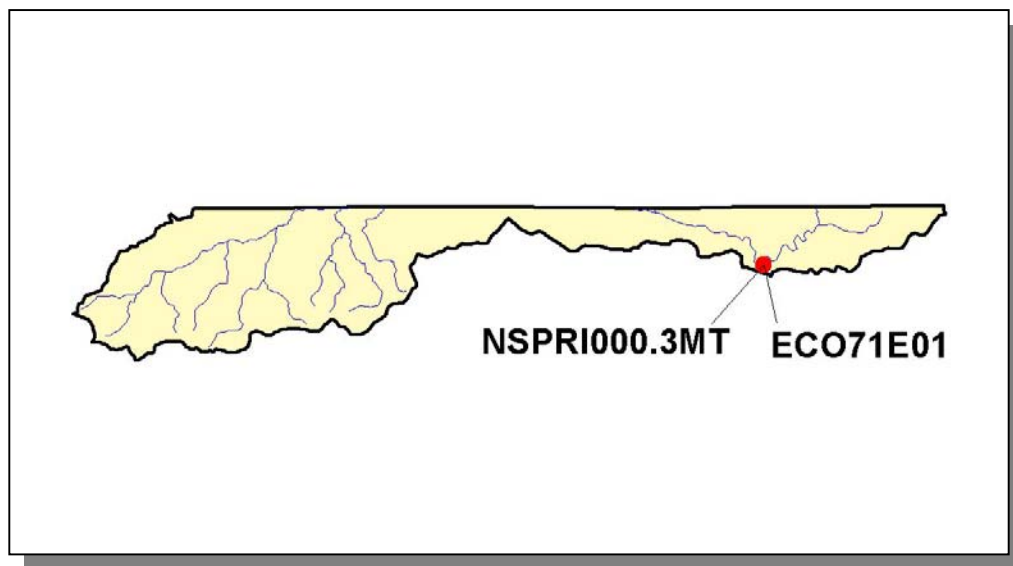


Figure 4-194. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060701. More information, including site names and locations and stations located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.F.i.a. Point Source Contributions.

There are no point source contributions in this subwatershed.

4.2.F.i.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS				
Beef Cow	Cattle	Milk Cow	Hogs	Sheep
62	226	<5	14	<5

Table 4-154. Summary of Livestock Count Estimates in Subwatershed 051302060701.
According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Montgomery	16,051	30,959	760	913	1,408	107
Stewart	0	8,925	0	477	683	21

Table 4-155. Summary of Livestock Count Estimates in Montgomery and Stewart Counties.
According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Montgomery				
Stewart	219.7	219.7	5.4	25.4

Table 4-156. Forest Acreage and Annual Removal Rates (1987-1994) in Montgomery and Stewart Counties.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	1.06
Grass (Hayland)	0.14
Legumes, Grass (Hayland)	0.40
Grass, Forbs, Legumes (Mixed Pasture)	0.35
Corn (Row Crops)	4.10
Soybeans (Row Crops)	7.53
Tobacco (Row Crops)	12.02
Conservation Reserve Program Lands	0.41
Other Land in Farms	0.30
Farmsteads and Ranch Headquarters	0.10

Table 4-157. Annual Estimated Total Soil Loss in Subwatershed 051302060701.

4.2.F.ii. 051302060702 (Piney Fork Creek).

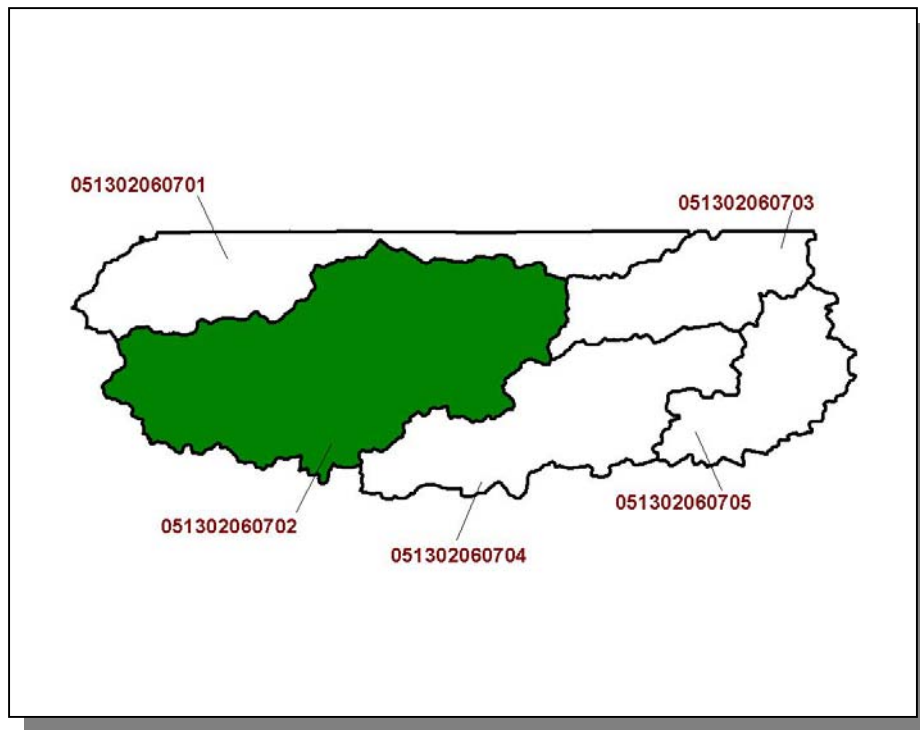


Figure 4-195. Location of Subwatershed 051302060702. All HUC-12 subwatershed boundaries are shown for reference.

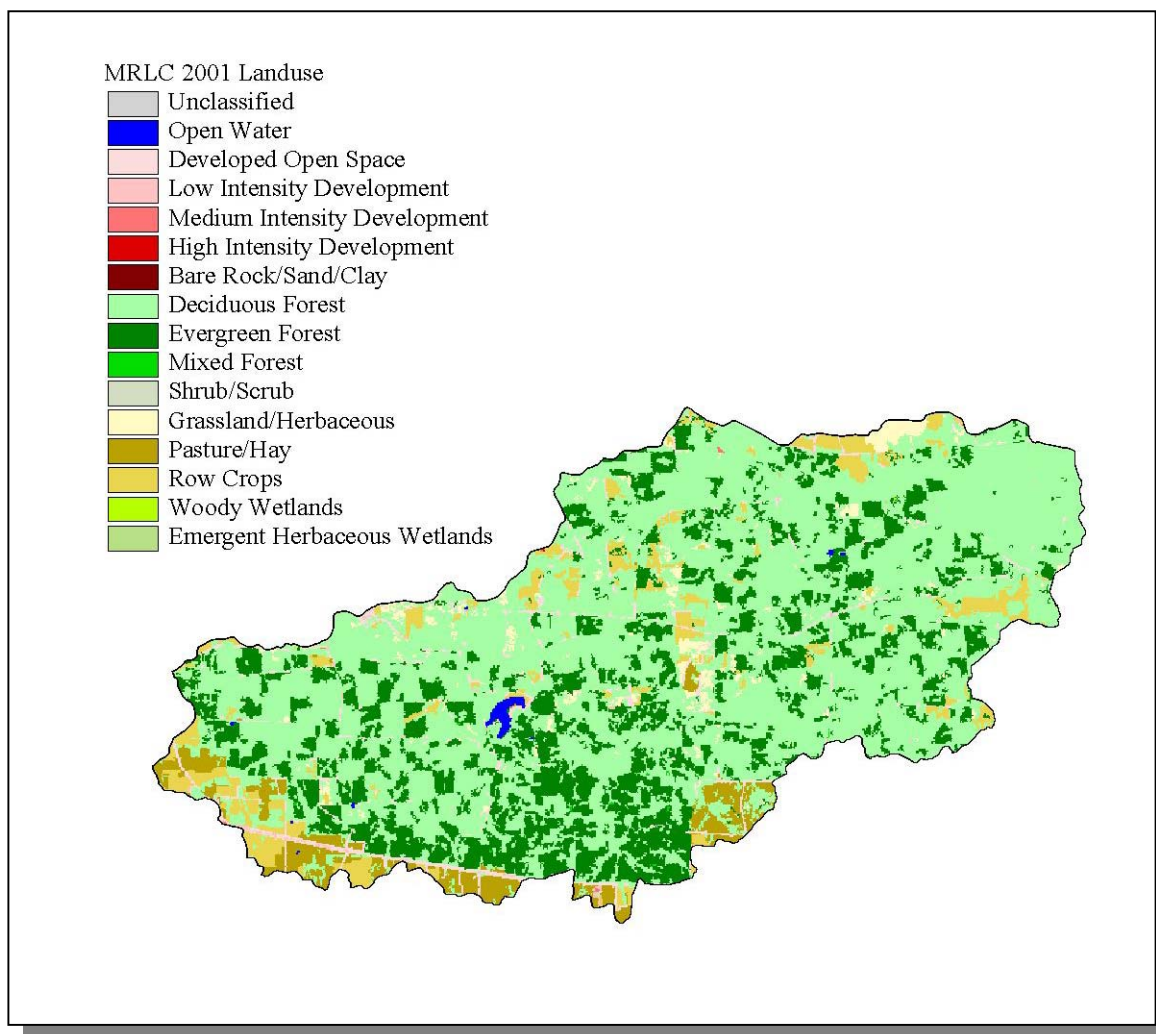


Figure 4-196. Illustration of Land Use Distribution in Subwatershed 051302060702.

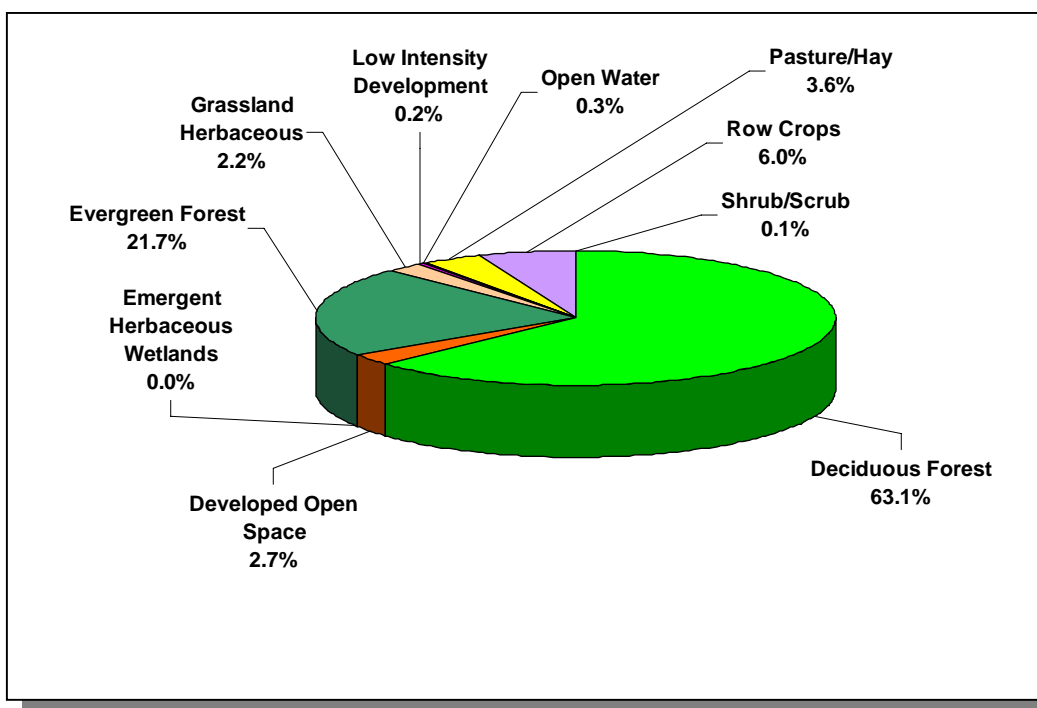


Figure 4-197. Land Use Distribution in Subwatershed 051302060702. More information is provided in Appendix IV.

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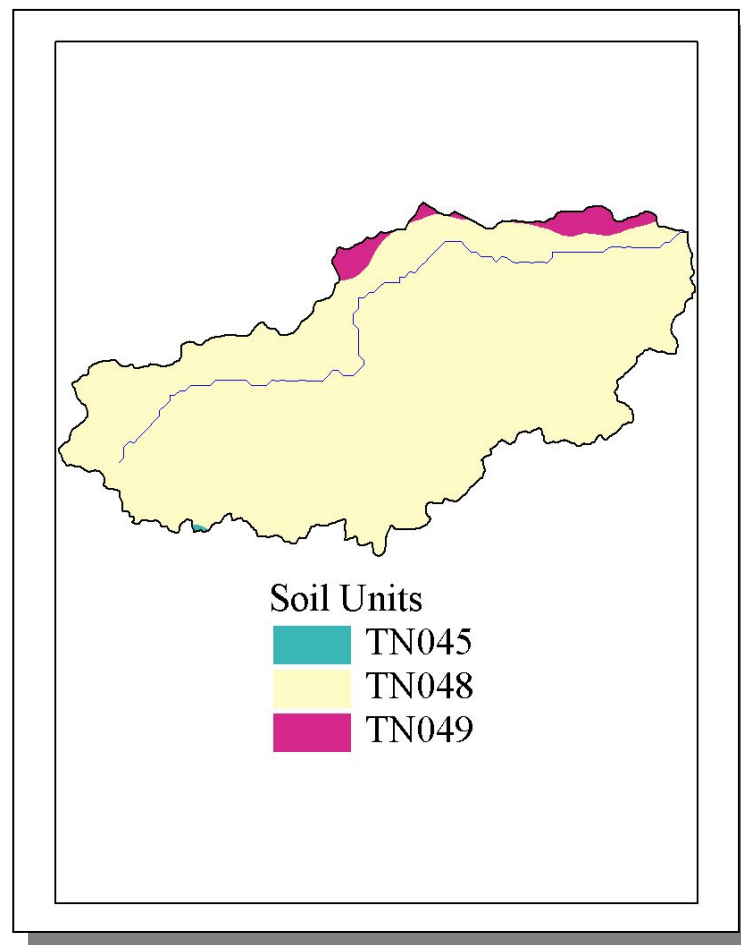


Figure 4-198. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060702.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN045	0.00	B	1.95	5.45	Loam	0.35
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN049	0.00	C	1.30	5.94	Silty Loam	0.34

Table 4-158. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060702. The definition of "Hydrologic Group" is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Montgomery	100,498	124,369	134,768	5.14	5,163	6,389	6,924	34.1
Stewart	9,479	11,241	12,370	4.45	422	501	551	30.6
Total	109,977	135,610	147,138		5,585	6,890	7,475	33.8

Table 4-159. Population Estimates in Subwatershed 051302060702.

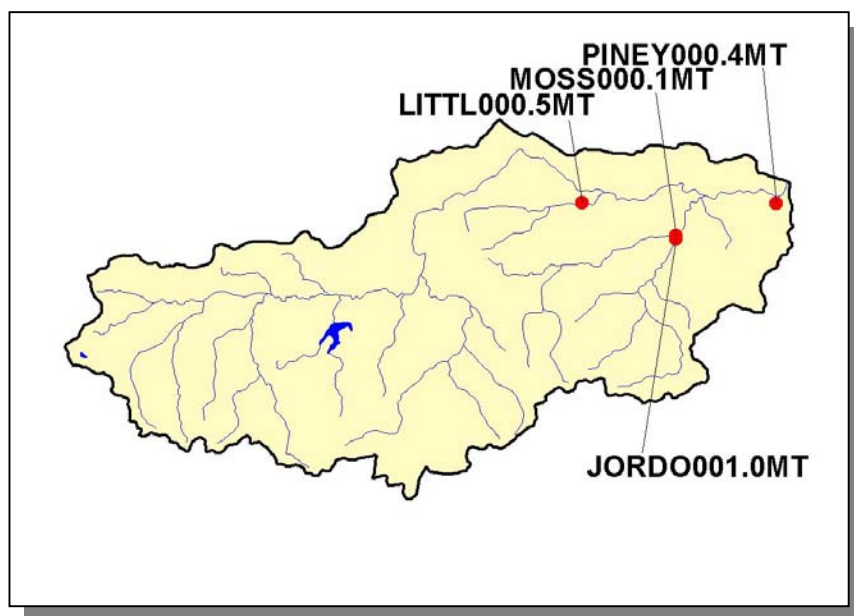


Figure 4-199. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060702. More information, including site names and locations and stations located in the watershed outside of Tennessee, is provided in Appendix IV.

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4.2.F.ii.a. Point Source Contributions.

There are no point source contributions in this subwatershed.

4.2.F.ii.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
76	1,041	<5	<5	75	<5

Table 4-160. Summary of Livestock Count Estimates in Subwatershed 051302060702.
According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Montgomery	16,051	30,959	760	913	1,408	107
Stewart	0	8,925	0	477	683	21

Table 4-161. Summary of Livestock Count Estimates in Montgomery and Stewart Counties.
According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Montgomery				
Stewart	219.7	219.7	5.4	25.4

Table 4-162. Forest Acreage and Annual Removal Rates (1987-1994) in Montgomery and Stewart Counties.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.88
Grass (Hayland)	0.18
Legumes, Grass (Hayland)	0.40
Grass, Forbs, Legumes (Mixed Pasture)	0.41
Corn (Row Crops)	5.28
Soybeans (Row Crops)	6.56
Tobacco (Row Crops)	15.06
Conservation Reserve Program Lands	0.41
Other Land in Farms	0.30
Farmsteads and Ranch Headquarters	0.08

Table 4-163. Annual Estimated Total Soil Loss in Subwatershed 051302060702.

4.2.F.iii. 051302060703 (Little West Fork Red River).

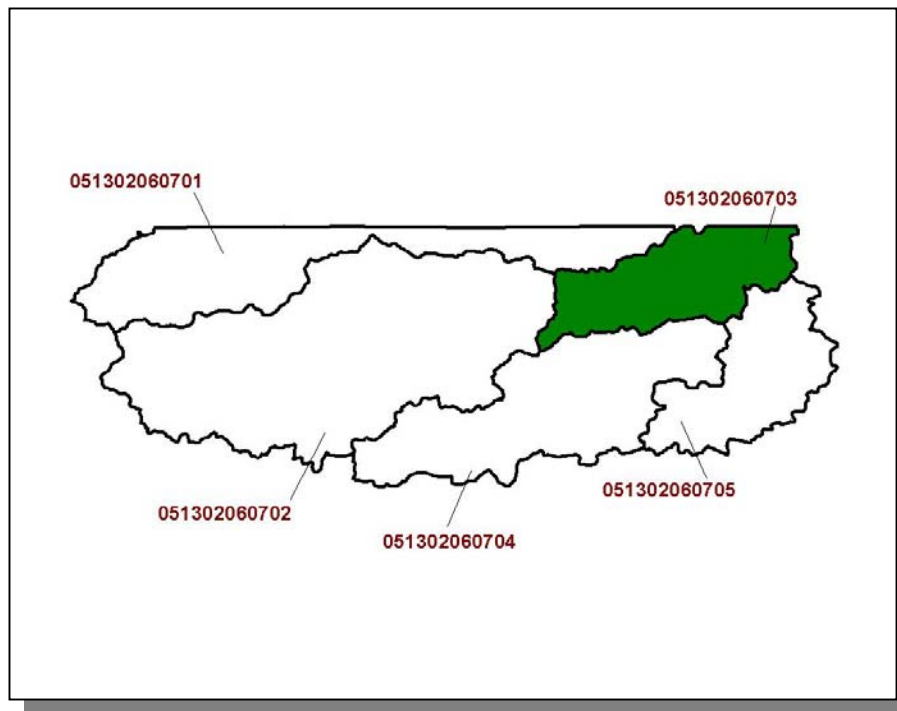


Figure 4-200. Location of Subwatershed 051302060703. All Red River HUC-12 subwatershed boundaries in Tennessee are shown for reference.

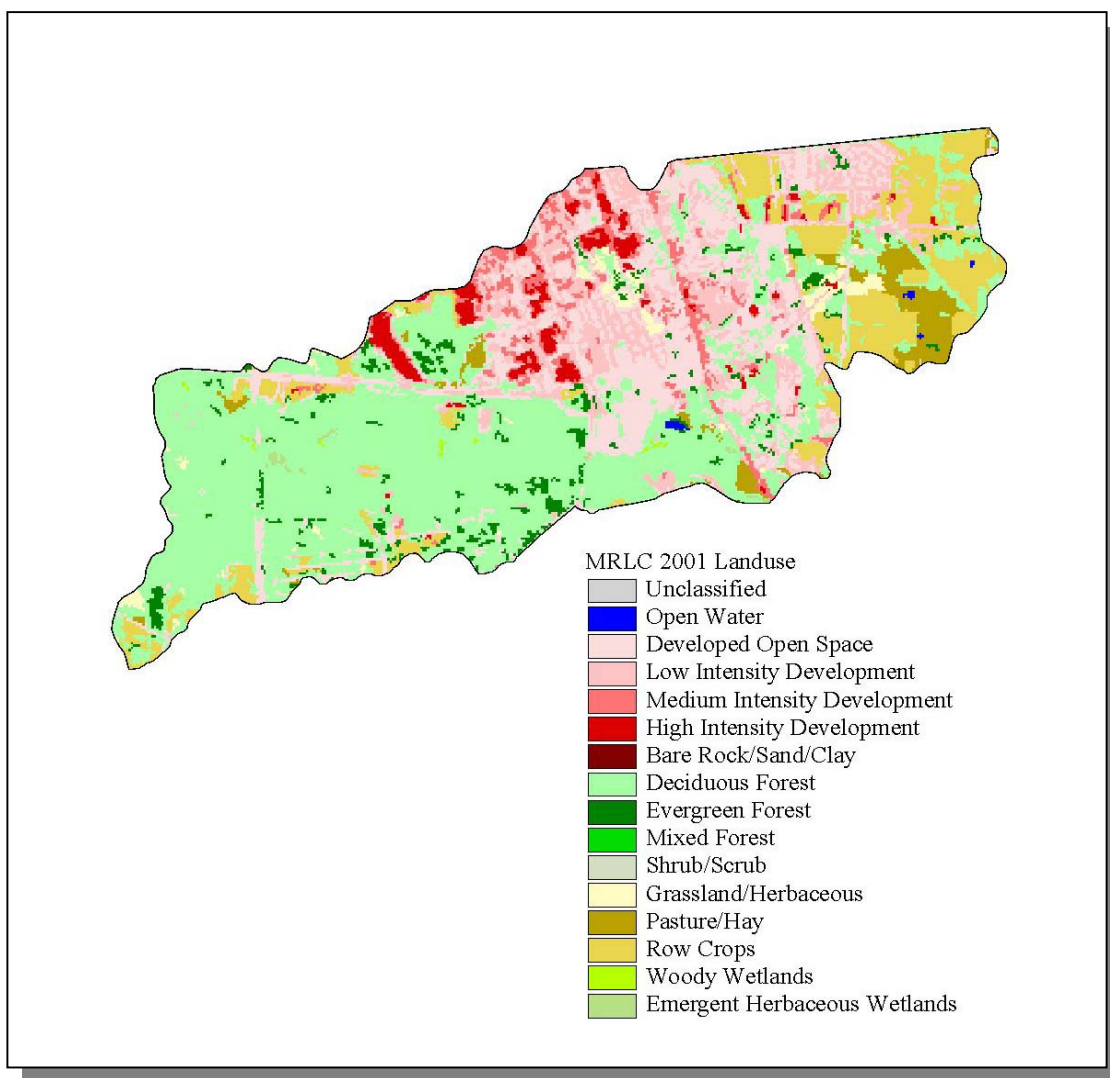


Figure 4-201. Illustration of Land Use Distribution in Subwatershed 051302060703.

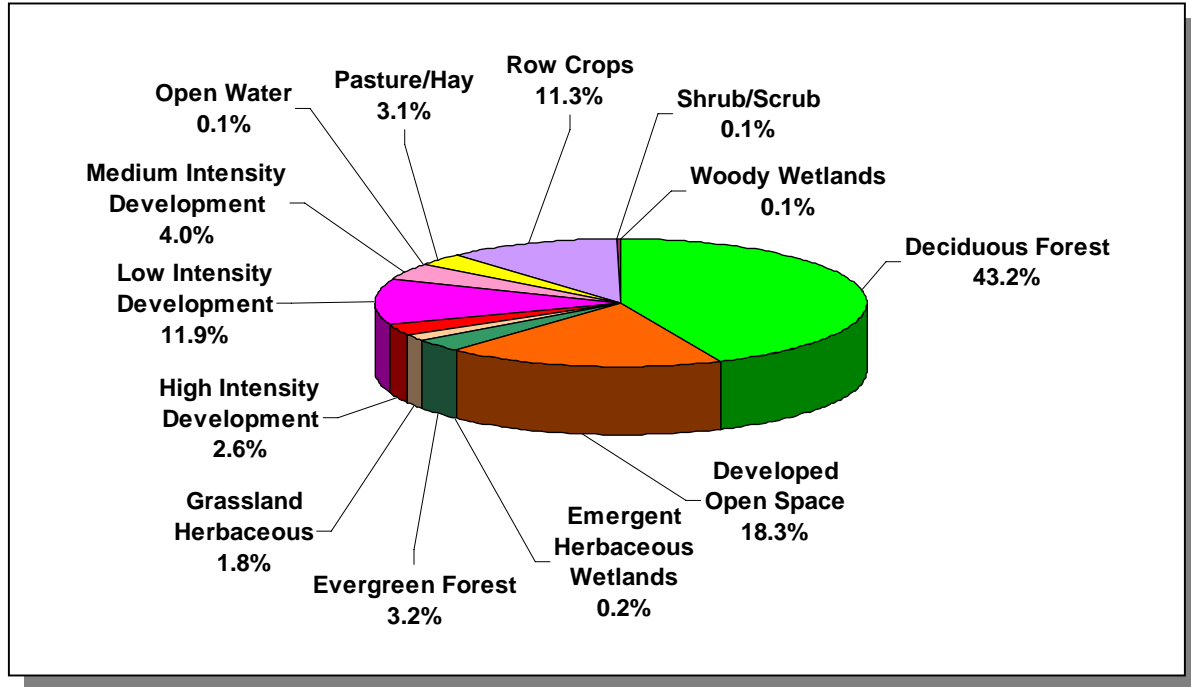


Figure 4-202. Land Use Distribution in Subwatershed 051302060703. More information is provided in Appendix IV.

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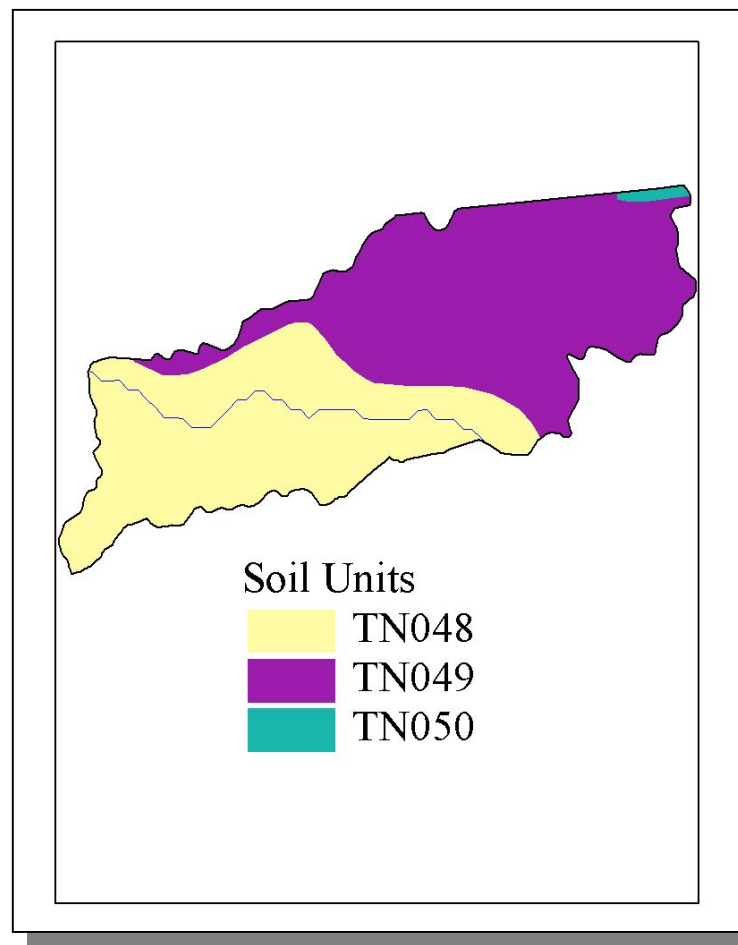


Figure 4-203. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060703.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN049	0.00	C	1.30	5.94	Silty Loam	0.34
TN050	0.00	B	1.30	5.97	Silty Loam	0.33

Table 4-164. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 060102060703. The definition of “Hydrologic Group” is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Montgomery	100,498	124,369	134,768	2.72	2,729	3,377	3,659	34.1

Table 4-165. Population Estimates in Subwatershed 051302060703.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Clarksville	Montgomery	75,494	27,642	23,610	3,956	76

Table 4-166. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060703.

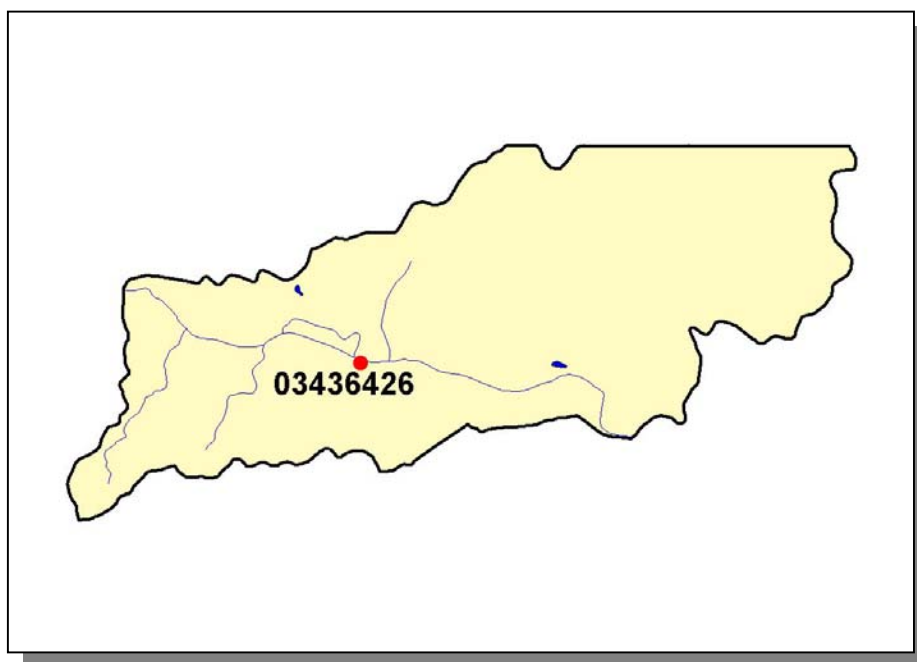


Figure 4-204. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060703. More information is provided in Appendix IV.

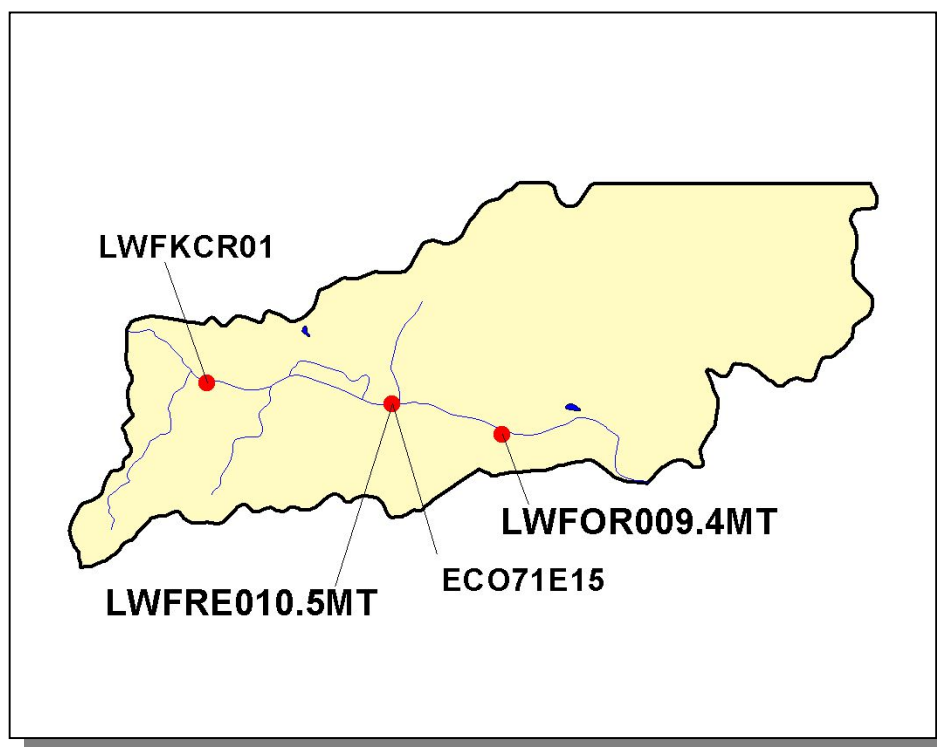


Figure 4-205. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060703. More information, including site names and locations and stations located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.F.iii.a. Point Source Contributions.

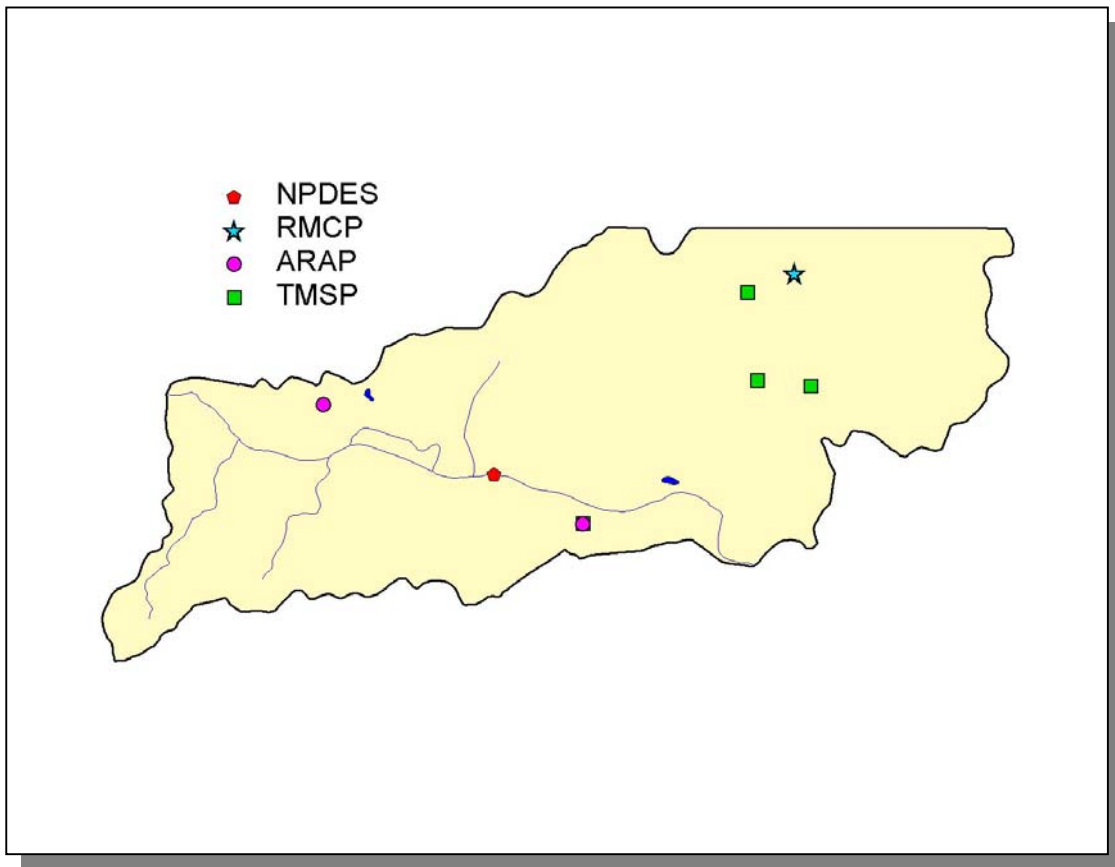


Figure 4-206. Location of Permits Issued in Subwatershed 051302060703. More information, including the names of facilities, is provided in Appendix IV.

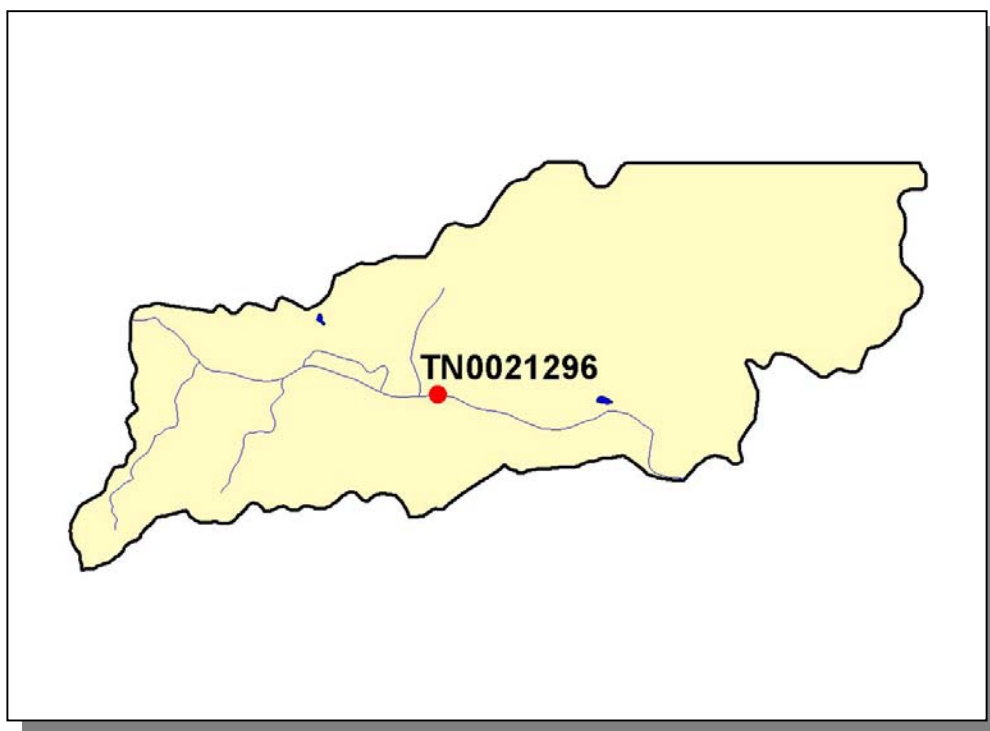


Figure 4-207. Location of Active NPDES Sites in Subwatershed 051302060703. More information, including the names of facilities, is provided in Appendix IV.

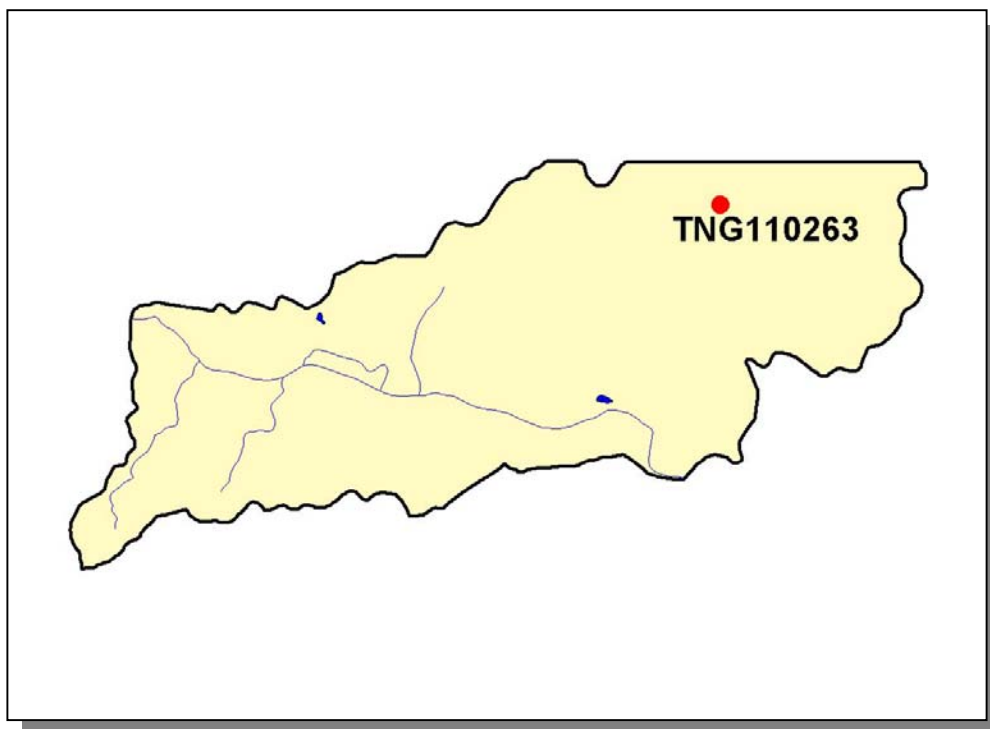


Figure 4-208. Location of Ready Mix Concrete Plants (RMCP) in Subwatershed 051302060703. More information is provided in Appendix IV.

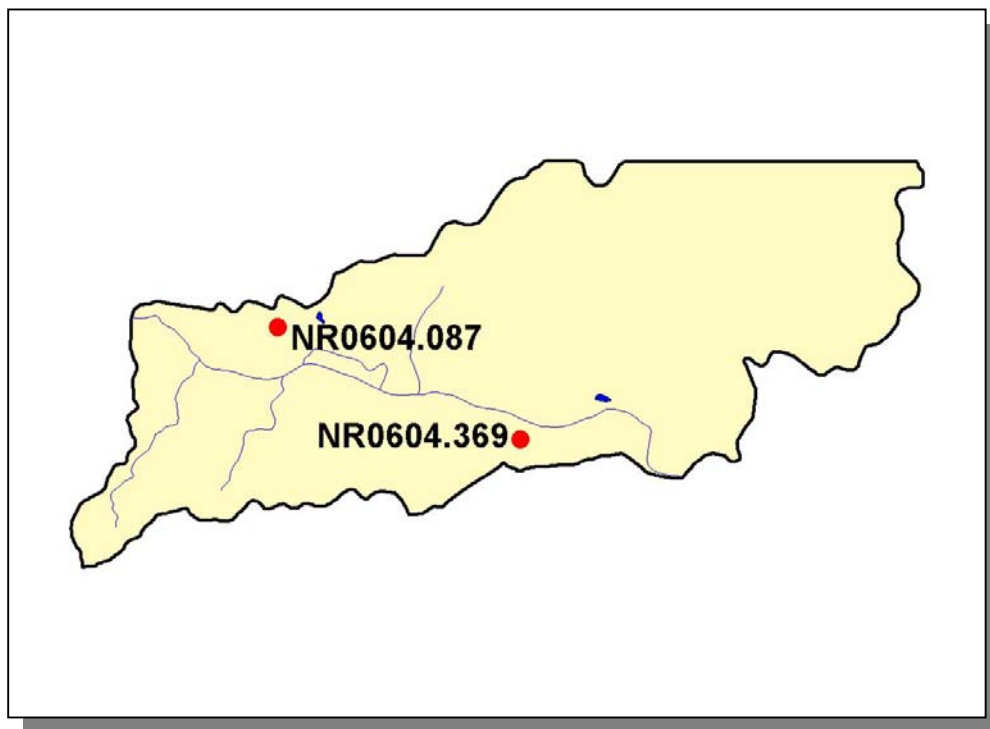


Figure 4-209. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060703. More information is provided in Appendix IV.

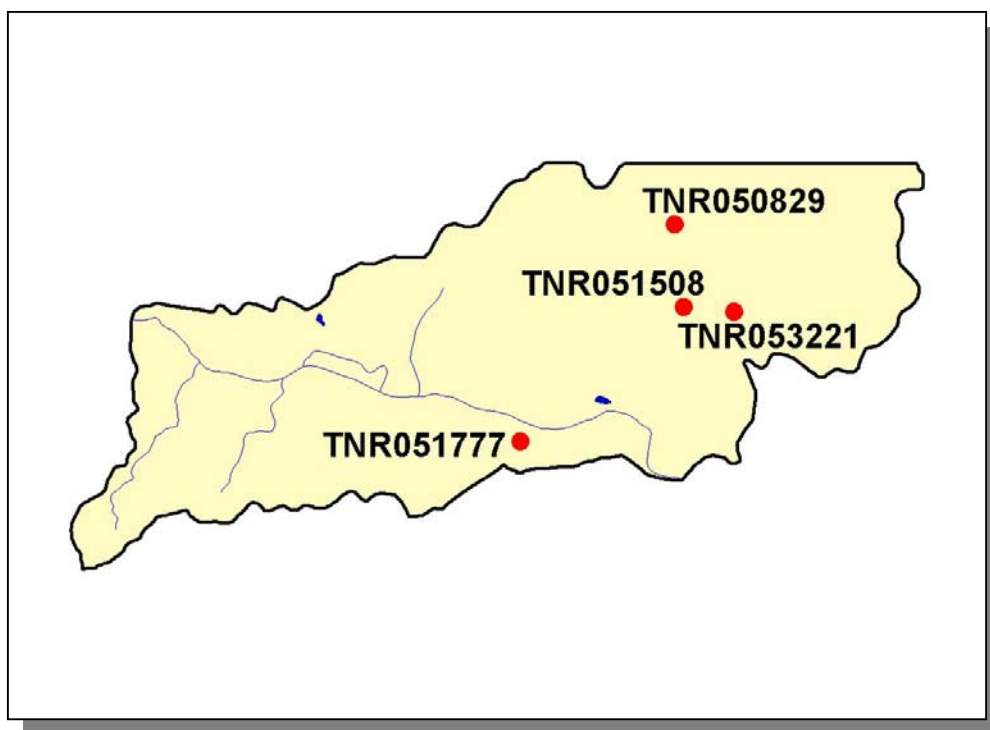


Figure 4-210. Location of TMSP Sites in Subwatershed 051302060703. More information, including the names of facilities, is provided in Appendix IV.

4.2.F.iii.a.i. Dischargers to Water Bodies Listed on the 2004 303(d) List

There is one NPDES facility discharging to water bodies listed on the 2004 303(d) list in Subwatershed 051302060703:

- TN0021296 (CH2M Hill Services) discharges to Little West Fork Creek @ RM 10.4

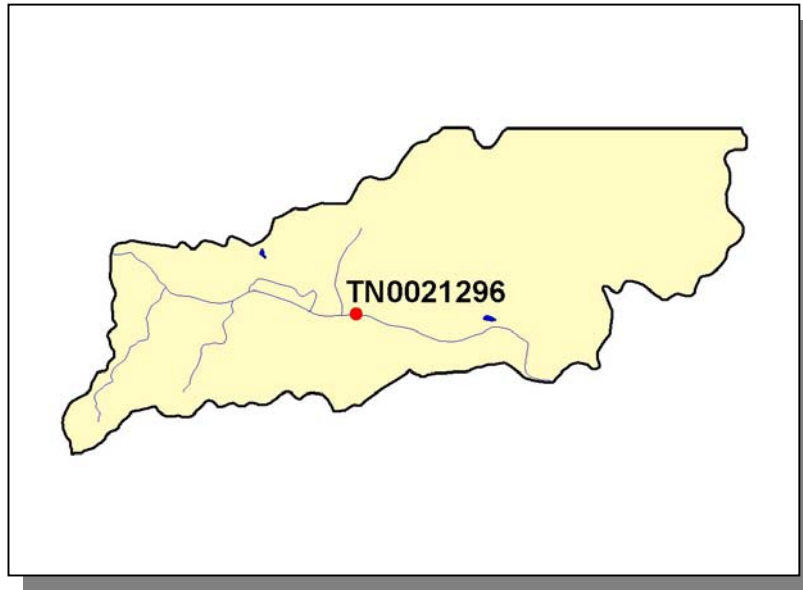


Figure 4-211. Location of NPDES Dischargers to Water Bodies Listed on the 2004 303(d) List in Subwatershed 051302060703. More information, including the names of facilities, is provided in Appendix IV.

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PERMIT #	1Q10	3Q10	7Q10	3Q20	QDESIGN
TN0021296			3.361	1.777	

Table 4-167. Receiving Stream Flow Information for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060703. Data are in million gallons per day (MGD). Data were obtained from the USGS publication Flow Duration and Low Flows of Tennessee Streams Through 1992 or from permit files.

PERMIT #	P	N	Cu	Hg	FLOW
TN0021296	X	X	X	X	X

Table 4-168. Monitoring Requirements for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060703.

PERMIT #	WET	CBOD ₅	<i>E. coli</i>	NH ₃	TSS	SETTLEABLE SOLIDS	DO	pH
TN0021296	X	X	X	X	X	X	X	X

Table 4-169. Parameters Monitored for Daily Maximum Limits for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060703. WET, Whole Effluent Toxicity; CBOD₅, Carbonaceous Biochemical Oxygen Demand (5-Day); TRC, Total Residual Chlorine; TSS, Total Suspended Solids.

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4.2.F.iii.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS				
Beef Cow	Cattle	Milk Cow	Hogs	Sheep
259	500	12	23	<5

Table 4-170. Summary of Livestock Count Estimates in Subwatershed 051302060703. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Montgomery	16,051	30,959	760	913	1,408	107

Table 4-171. Summary of Livestock Count Estimates in Montgomery County. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Montgomery				

Table 4-172. Forest Acreage and Annual Removal Rates (1987-1994) in Montgomery County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.45
Grass (Hayland)	0.29
Legumes, Grass (Hayland)	0.40
Grass, Forbs, Legumes (Mixed Pasture)	0.55
Corn (Row Crops)	8.04
Soybeans (Row Crops)	4.26
Tobacco (Row Crops)	22.25
Conservation Reserve Program Lands	0.41
Farmsteads and Ranch Headquarters	0.04

Table 4-173. Annual Estimated Total Soil Loss in Subwatershed 051302060703.

4.2.F.iv. 051302060704 (Fletchers Fork).

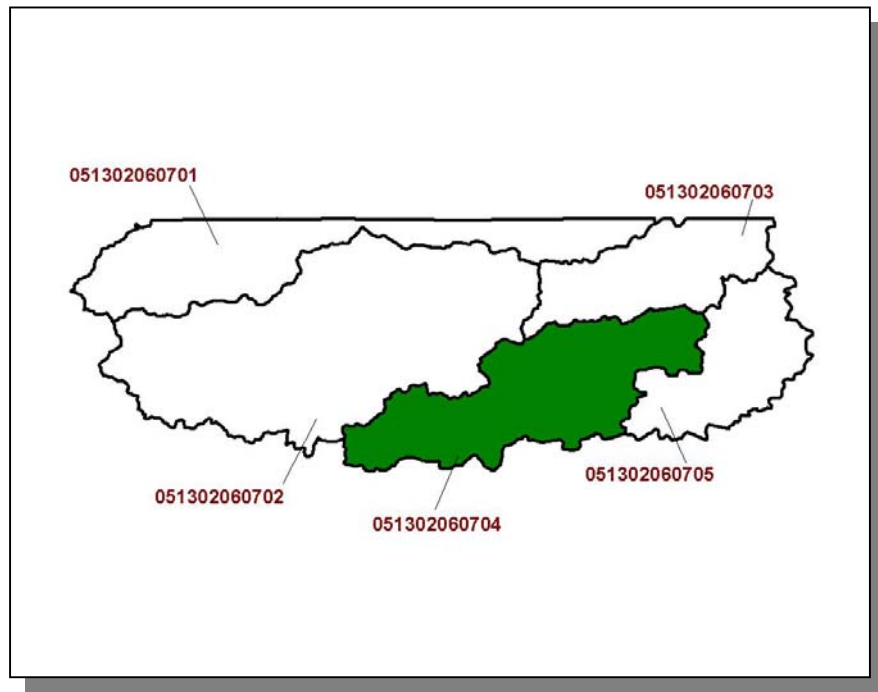


Figure 4-212. Location of Subwatershed 051302060704. All HUC-12 subwatershed boundaries are shown for reference.

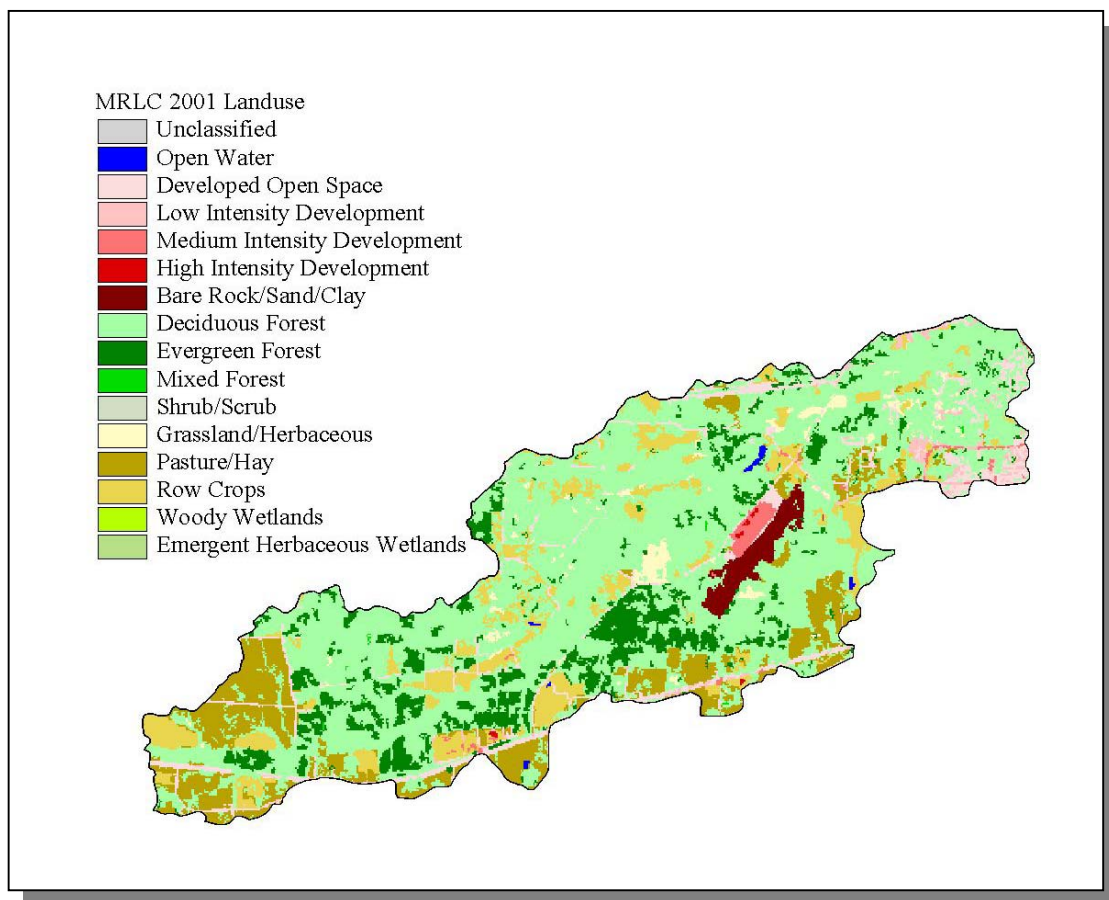


Figure 4-213. Illustration of Land Use Distribution in Subwatershed 051302060704.

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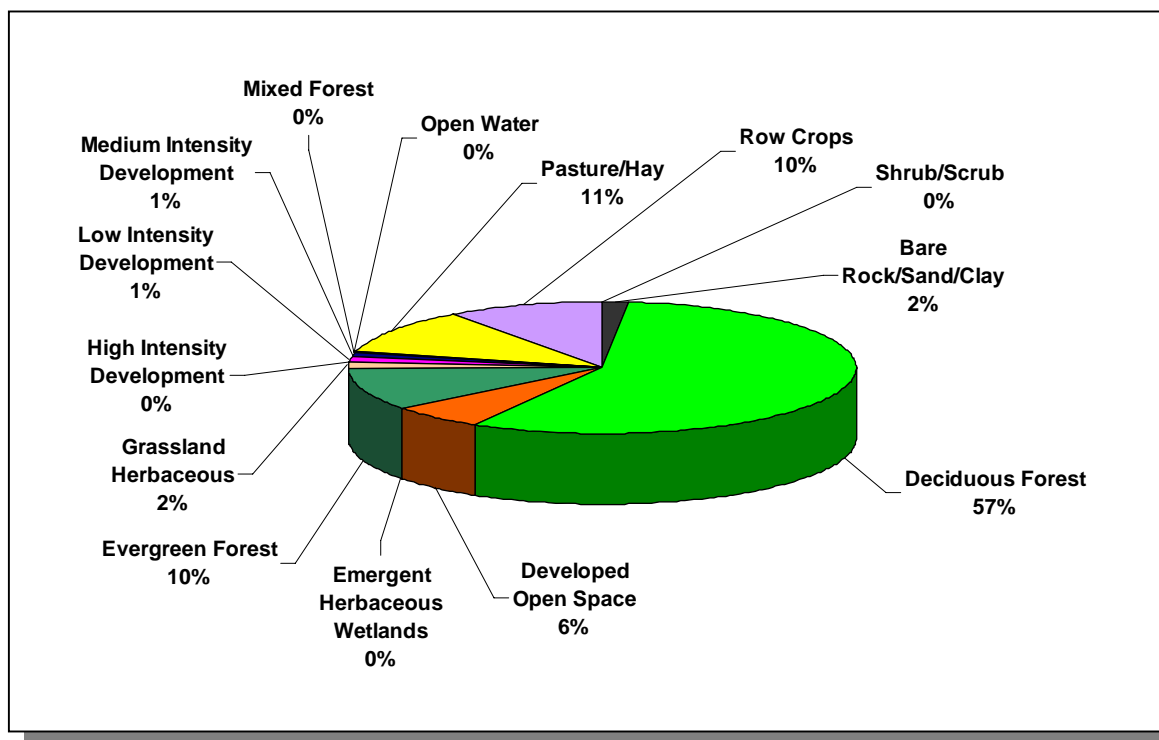


Figure 4-214. Land Use Distribution in Subwatershed 051302060704. More information is provided in Appendix IV.

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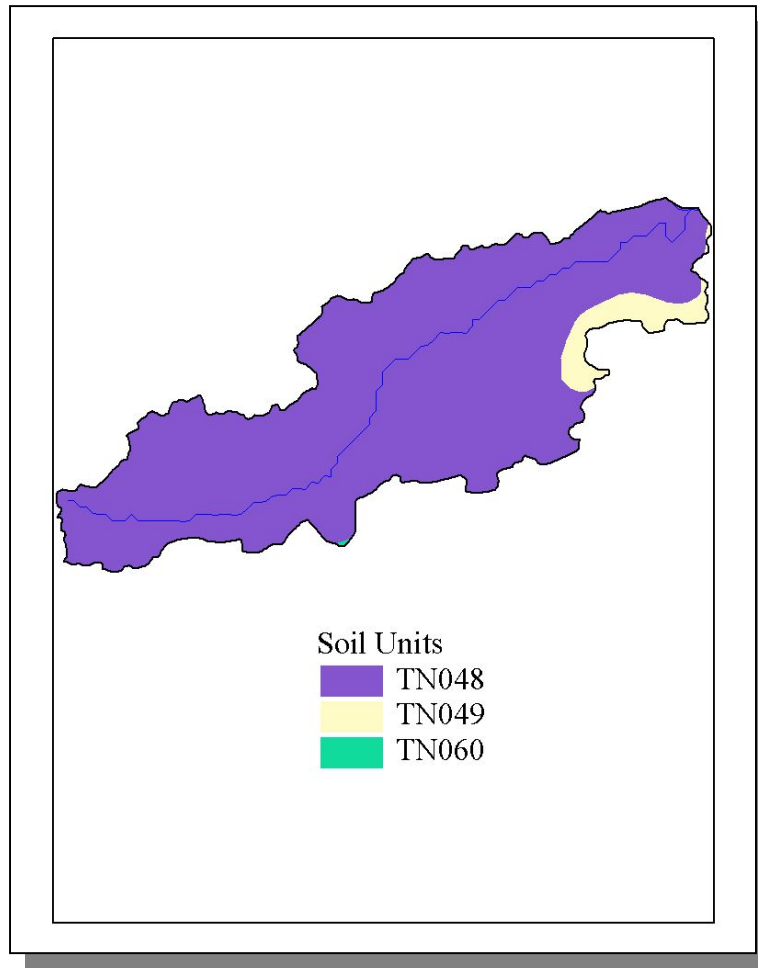


Figure 4-215. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060704.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN049	0.00	C	1.30	5.94	Silty Loam	0.34
TN060	5.00	C	1.30	5.32	Silty Loam	0.39

Table 4-174. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060704. The definition of “Hydrologic Group” is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Montgomery	100,498	124,369	134,768	4.78	4,801	5,942	6,438	34.1

Table 4-175. Population Estimates in Subwatershed 051302060704.

Populated Place	County	Population	NUMBER OF HOUSING UNITS			
			Total	Public Sewer	Septic Tank	Other
Clarksville	Montgomery	75,494	27,642	23,610	3,956	76

Table 4-176. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060704.

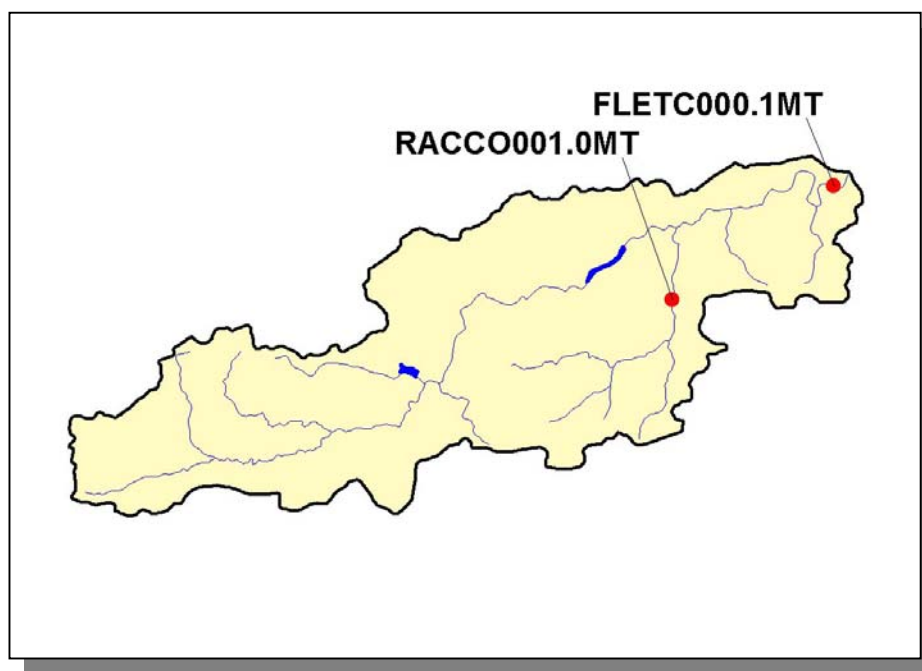


Figure 4-216. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060704. More information, including site names and locations and stations located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.F.iv.a. Point Source Contributions.

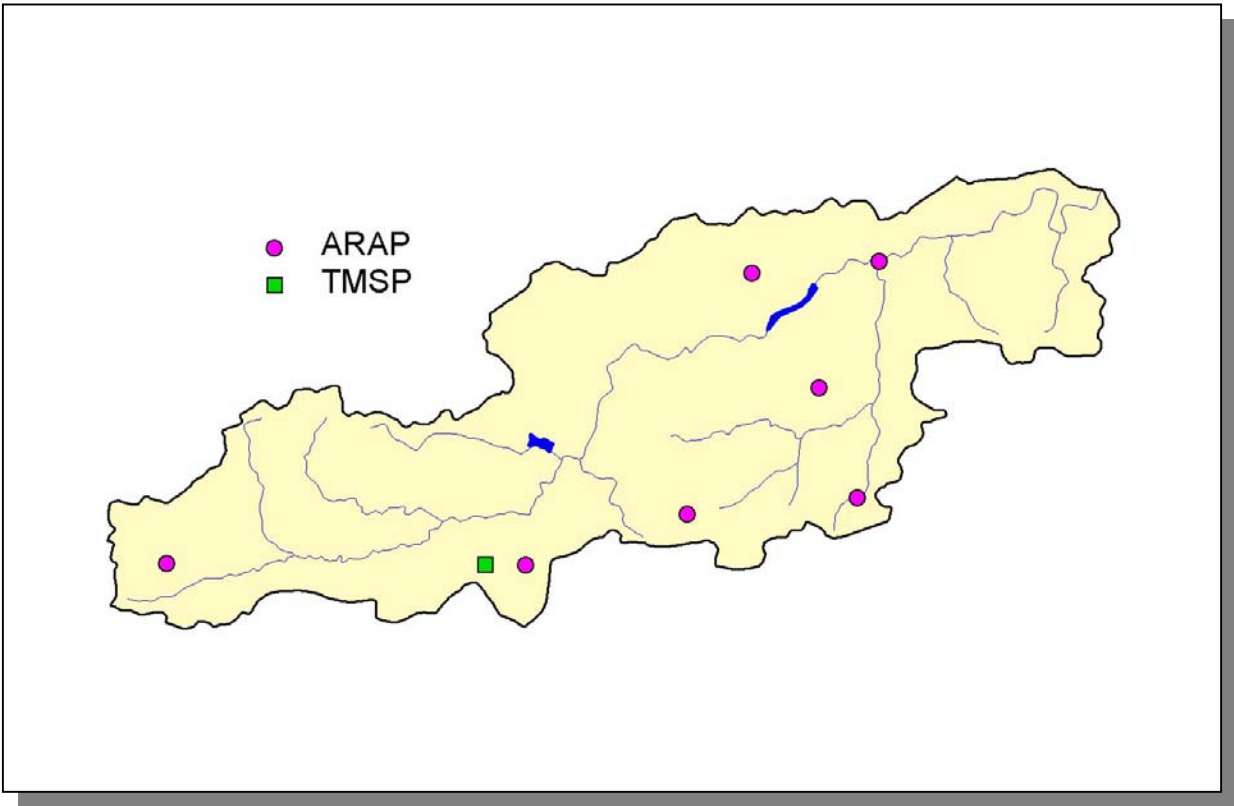


Figure 4-217. Location of Permits Issued in Subwatershed 051302060704. More information, including the names of facilities, is provided in Appendix IV.

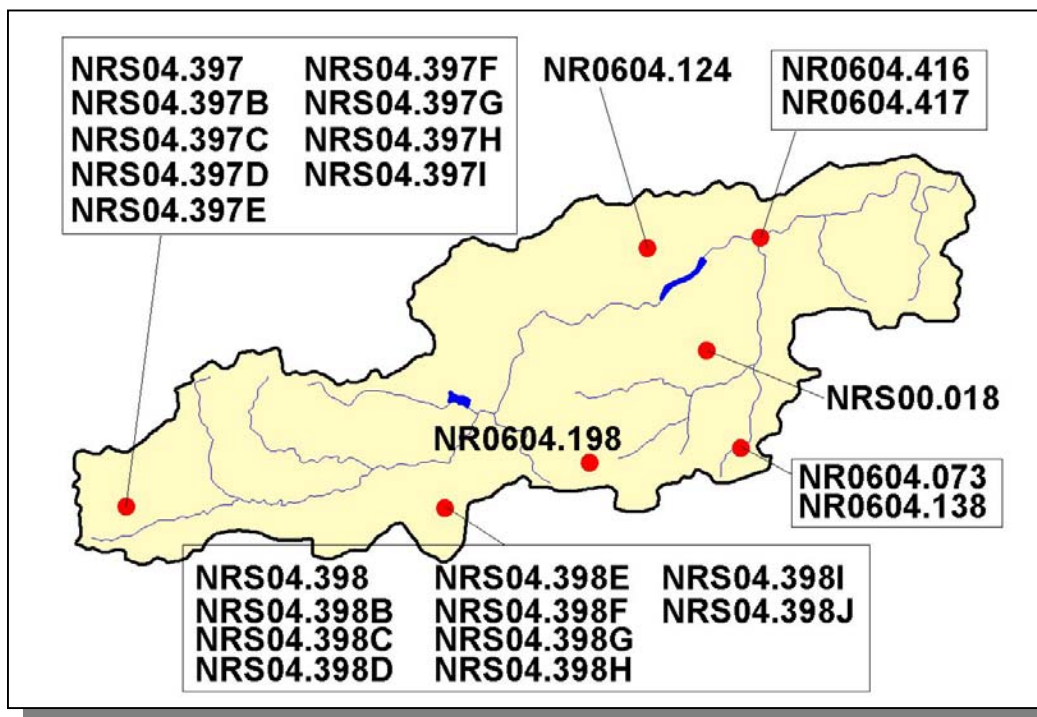


Figure 4-218. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060704. More information is provided in Appendix IV.

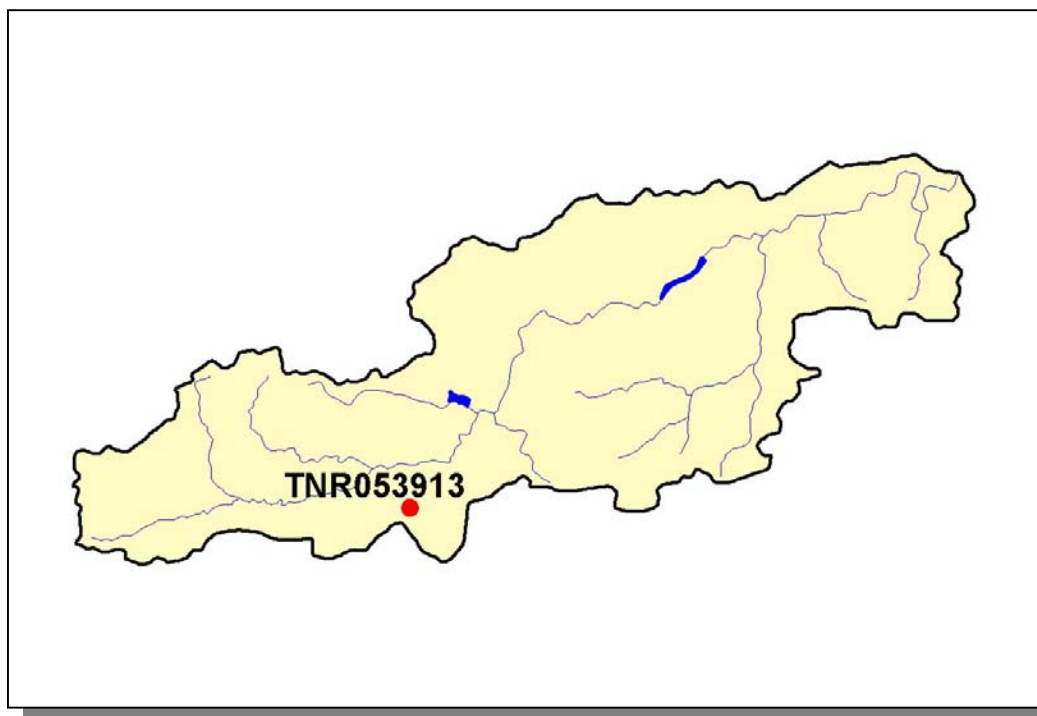


Figure 4-219. Location of TMSP Sites in Subwatershed 051302060704. More information, including the names of facilities, is provided in Appendix IV.

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4.2.F.iv.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
333	641	16	<5	29	<5

Table 4-177. Summary of Livestock Count Estimates in Subwatershed 051302060704. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Montgomery	16,051	30,959	760	913	1,408	107

Table 4-178. Summary of Livestock Count Estimates in Montgomery County. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Montgomery				

Table 4-179. Forest Acreage and Annual Removal Rates (1987-1994) in Montgomery County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.45
Grass (Hayland)	0.29
Legumes, Grass (Hayland)	0.40
Grass, Forbs, Legumes (Mixed Pasture)	0.55
Corn (Row Crops)	8.04
Soybeans (Row Crops)	4.26
Tobacco (Row Crops)	22.25
Conservation Reserve Program Lands	0.41
Farmsteads and Ranch Headquarters	0.04

Table 4-180. Annual Estimated Total Soil Loss in Subwatershed 051302060704.

4.2.F.v. 051302060705 (Little West Fork Red River).

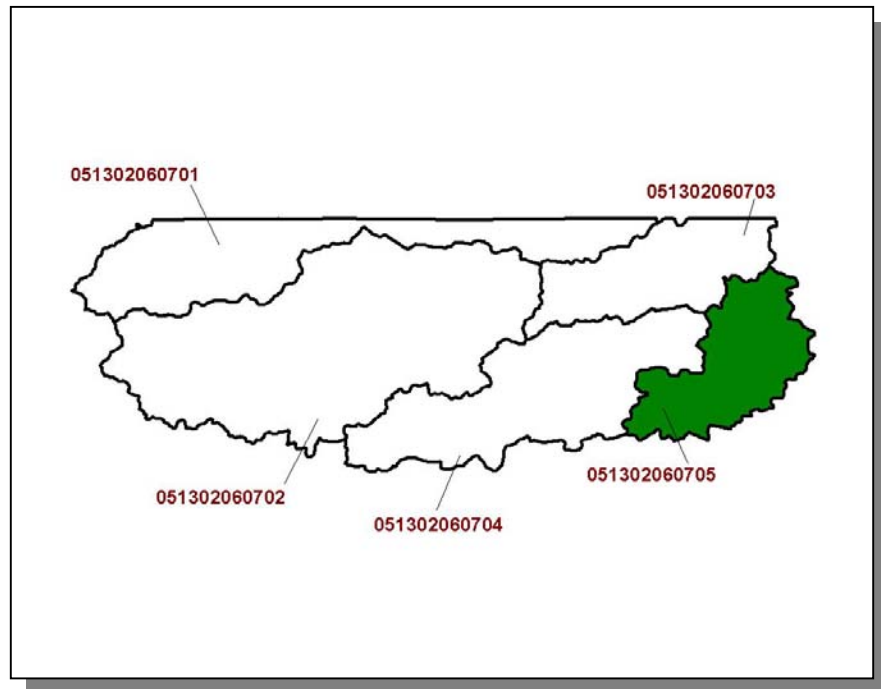


Figure 4-220. Location of Subwatershed 051302060705. All Red River HUC-12 subwatershed boundaries in Tennessee are shown for reference.

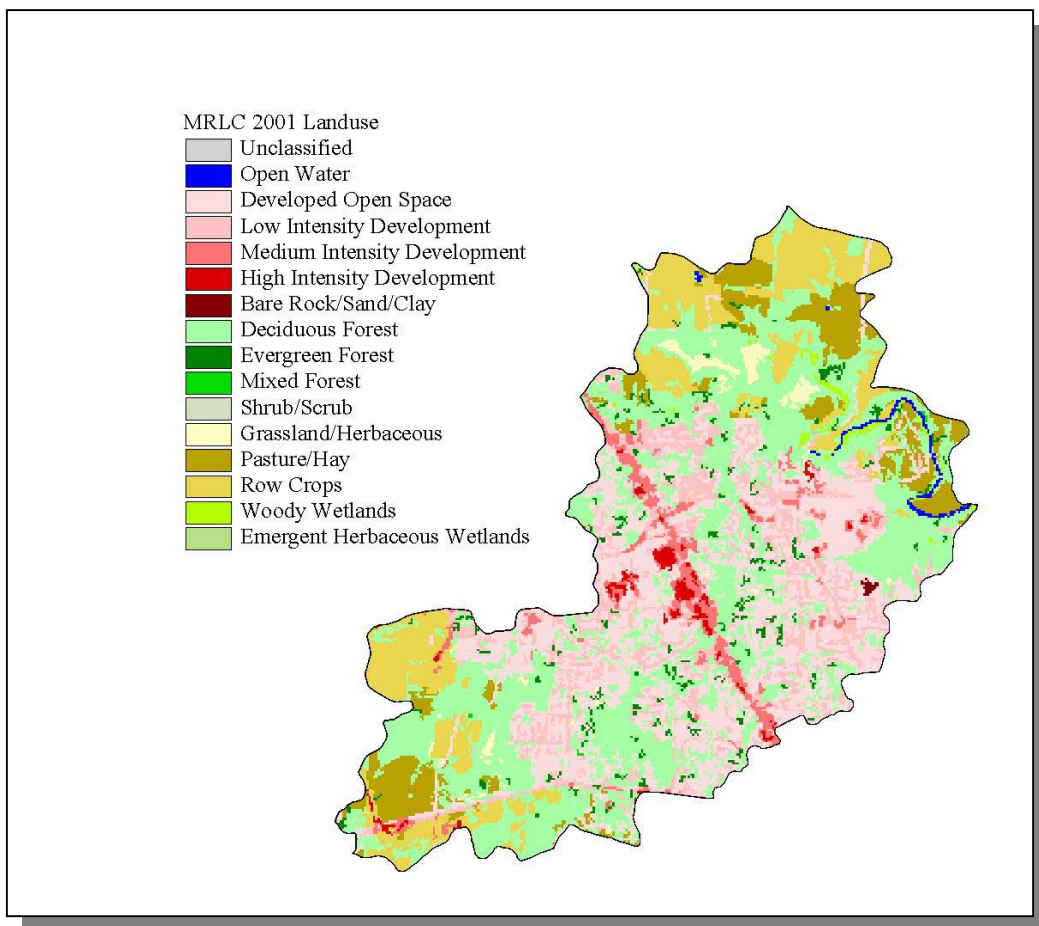


Figure 4-221. Illustration of Land Use Distribution in Subwatershed 051302060705.

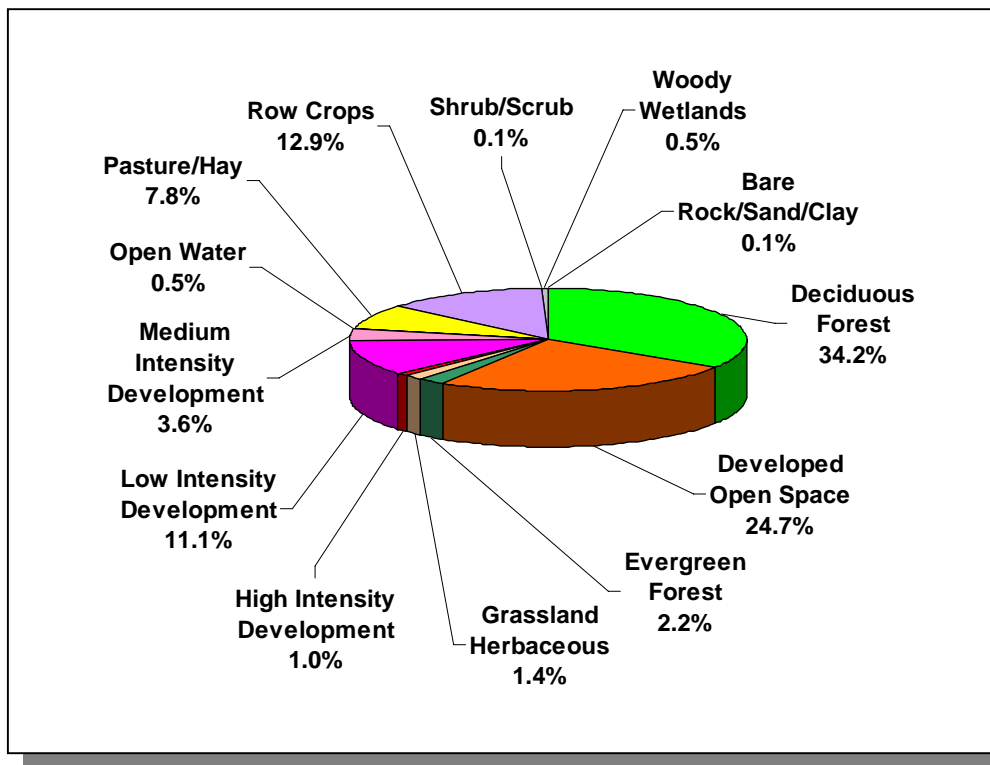


Figure 4-222. Land Use Distribution in Subwatershed 051302060705. More information is provided in Appendix IV.

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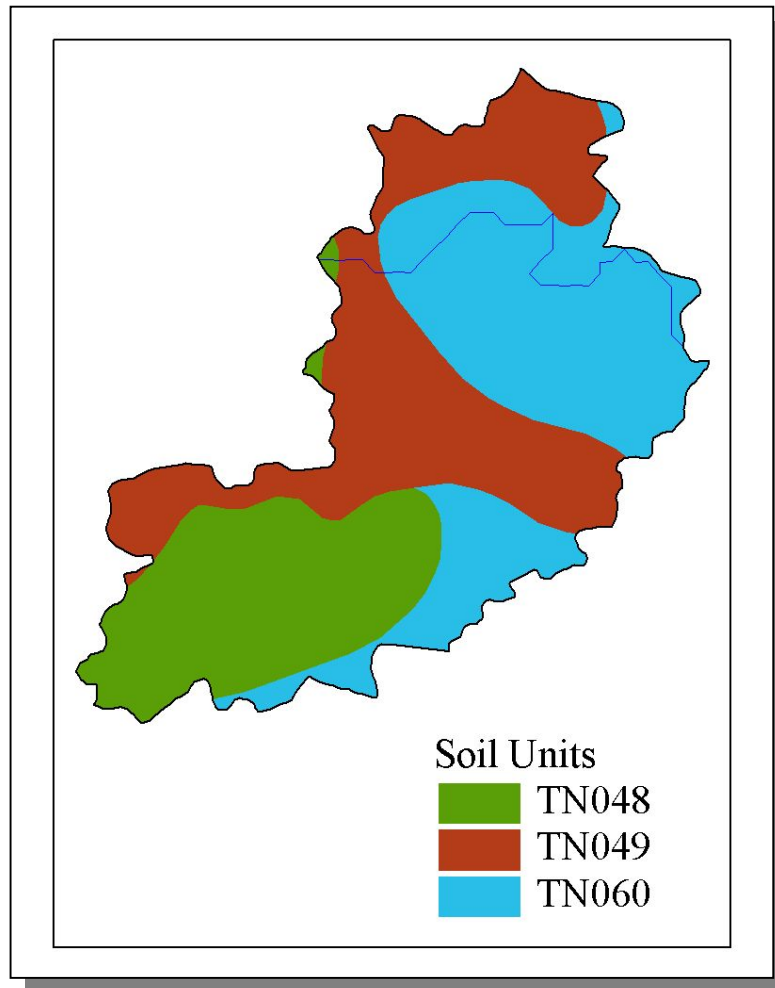


Figure 4-223. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060705.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN048	8.00	B	1.38	5.06	Silty Loam	0.42
TN049	0.00	C	1.30	5.94	Silty Loam	0.34
TN060	5.00	C	1.30	5.32	Silty Loam	0.39

Table 4-181. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060705. The definition of “Hydrologic Group” is provided in Appendix IV.

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County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-2000)
	1990	1997	2000		1990	1997	2000	
Montgomery	100,498	124,369	134,768	2.68	2,695	3,335	3,614	34.1

Table 4-182. Population Estimates in Subwatershed 051302060705.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Clarksville	Montgomery	75,494	27,642	23,610	3,956	76

Table 4-183. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060705.

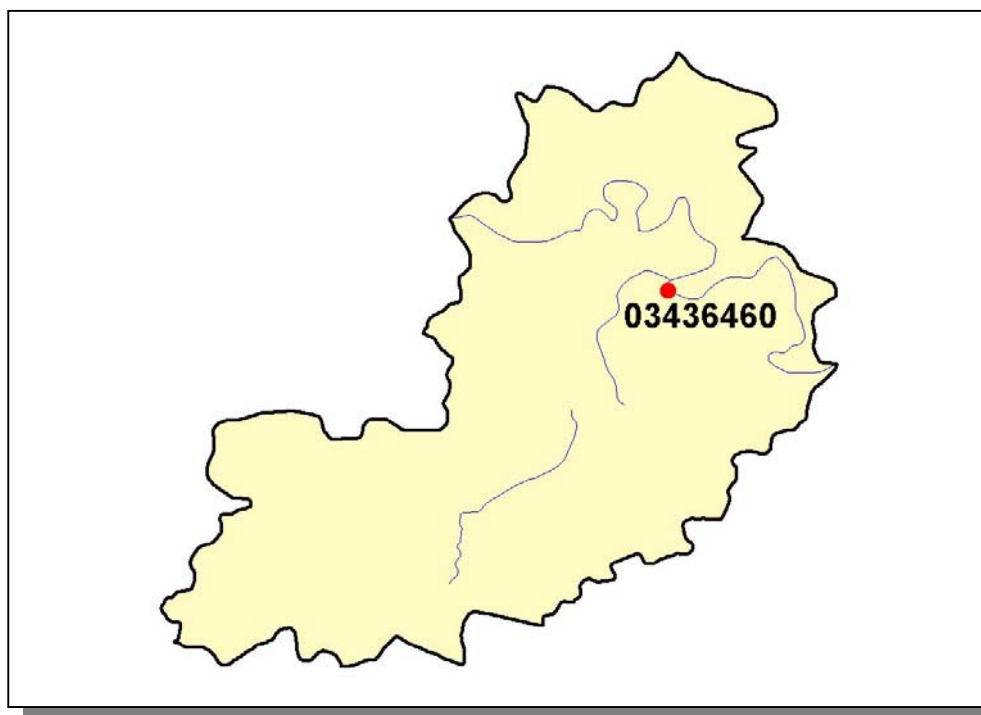


Figure 4-224. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060705. More information is provided in Appendix IV.

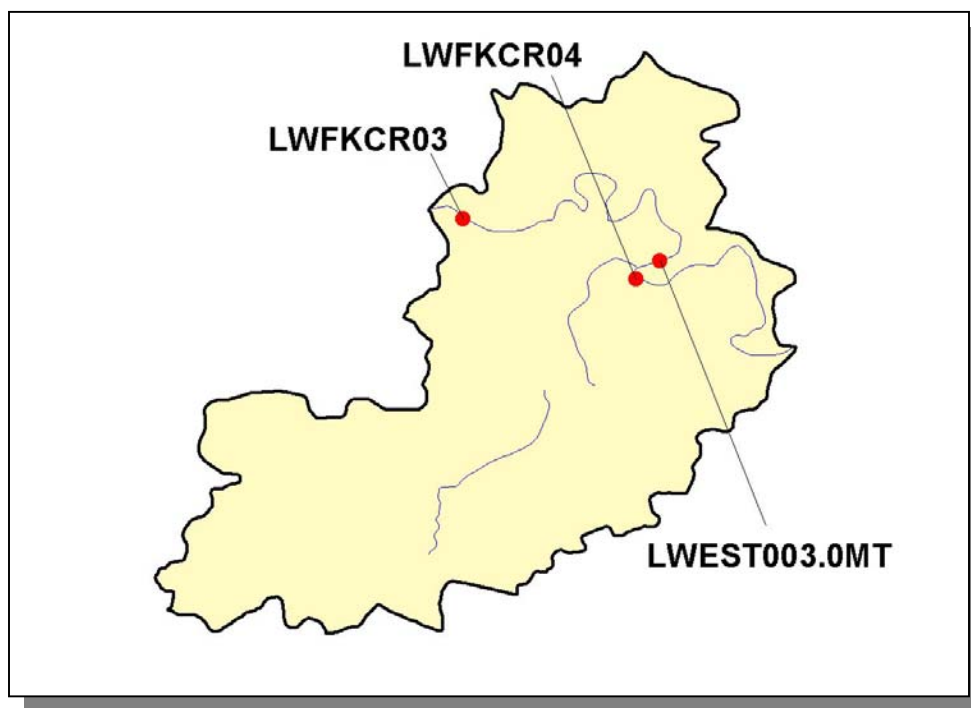


Figure 4-225. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060705. More information, including site names and locations and stations located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.F.v.a. Point Source Contributions.

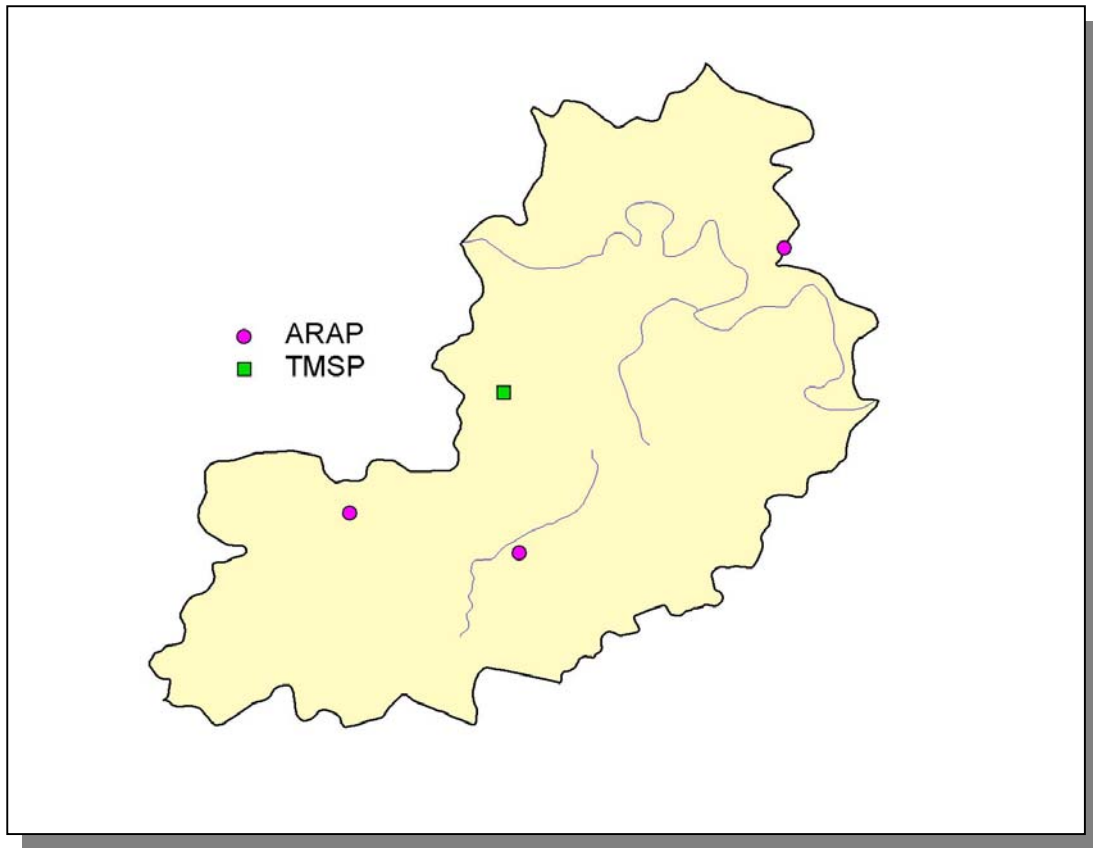


Figure 4-226. Location of Permits Issued in Subwatershed 051302060705. More information, including the names of facilities, is provided in Appendix IV.

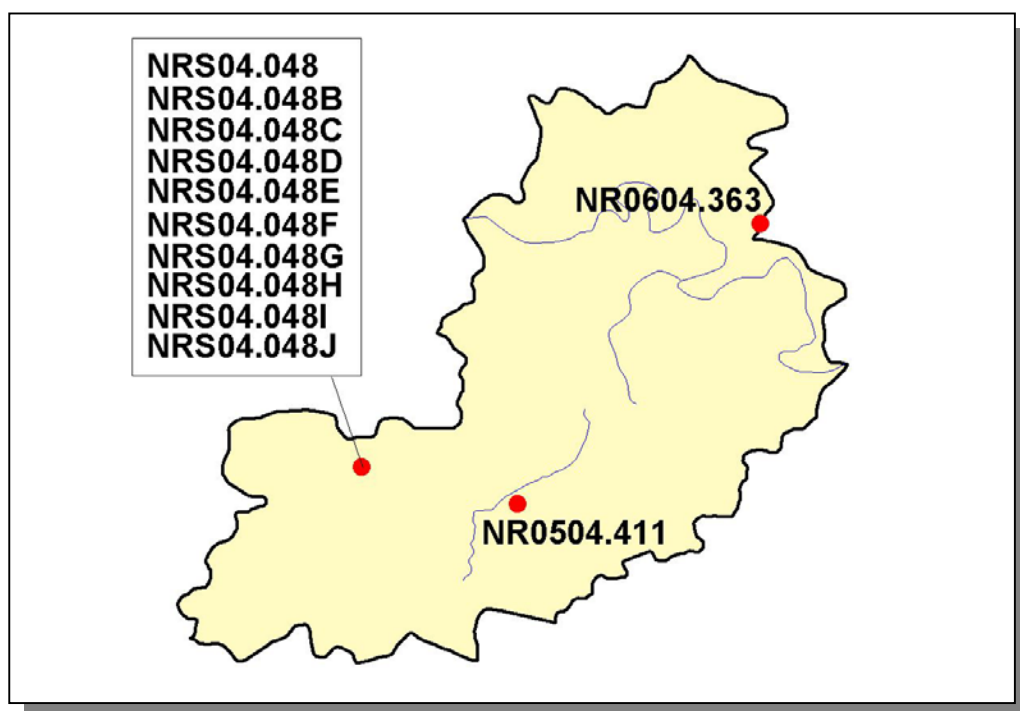


Figure 4-227. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060705. More information is provided in Appendix IV.



Figure 4-228. Location of TMSP Sites in Subwatershed 051302060705. More information, including the names of facilities, is provided in Appendix IV.

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4.2.F.v.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS					
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
375	724	18	<5	33	<5

Table 4-184. Summary of Livestock Count Estimates in Subwatershed 051302060705. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Montgomery	16,051	30,959	760	913	1,408	107

Table 4-185. Summary of Livestock Count Estimates in Montgomery County. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Montgomery				

Table 4-186. Forest Acreage and Annual Removal Rates (1987-1994) in Montgomery County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.45
Grass (Hayland)	0.29
Legumes, Grass (Hayland)	0.40
Grass, Forbs, Legumes (Mixed Pasture)	0.55
Corn (Row Crops)	8.04
Soybeans (Row Crops)	4.26
Tobacco (Row Crops)	22.25
Conservation Reserve Program Lands	0.41
Farmsteads and Ranch Headquarters	0.04

Table 4-187. Annual Estimated Total Soil Loss in Subwatershed 051302060705.